



Topic  
Better Living

Subtopic  
Personal Development

# Boosting Your Emotional Intelligence

## Course Guidebook

Professor Jason M. Satterfield  
University of California, San Francisco



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Jason M. Satterfield is a Professor of Clinical Medicine at the University of California, San Francisco (UCSF), where he also serves as the director of the School of Medicine's Health and the Individual Block and the director of Behavioral Medicine in the Division of General Internal Medicine. He received his B.S. in Brain Sciences from the Massachusetts Institute of Technology with a special minor in Psychology from

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Professor Satterfield was trained as a cognitive behavioral therapist at Penn's Center for Cognitive Therapy under the supervision of Drs. Aaron T. Beck, Judith Beck, and Robert DeRubeis. He completed his internship and postdoctoral fellowship at UCSF at San Francisco General Hospital with Drs. Ricardo Muñoz, Jeanne Miranda, and Jacqueline Persons in the Department of Psychiatry. In 1996, Professor Satterfield accepted a position in the UCSF Division of General

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Professor Satterfield's clinical work has included adaptations of cognitive behavioral therapy for underserved, medically ill populations and psychological interventions for patients with serious chronic illness. He directs the UCSF Behavioral Medicine Unit, which integrates mental and behavioral health services into adult primary care.

Professor Satterfield's research and educational interests include integrating social and behavioral science in medical education, disseminating and implementing evidence-based behavioral practices in primary care settings, and developing educational strategies to address health-care disparities.

Professor Satterfield's current projects include using digital technology to facilitate behavior change, supporting interprofessional education, promoting social and emotional intelligence for physicians, developing screening and brief interventions for substance abuse, and integrating the social and behavioral sciences in medical school and medical residency curricula. He is a member of the Behavioral and Social Science Consortium for Medical Education and the Council for Training in Evidence-Based Behavioral Practice, both of which are funded by the National Institutes of Health.

Professor Satterfield's book *A Cognitive-Behavioral Approach to the Beginning of the End of Life* and the accompanying patient workbook, *Minding the Body*, were recognized as Self-Help Books of Merit by the Association for Behavioral and Cognitive Therapies. He is also the associate editor of the best-selling textbook *Behavioral Medicine: A Guide for Clinical Practice* (4<sup>th</sup> edition). Professor Satterfield's special clinical publications include treatment models for cognitive behavioral therapy, treatment adaptations to improve cultural competence, and a transdisciplinary model to promote evidence-based behavioral practices in medicine, including interventions for smoking, weight management, drug abuse, and chronic disease management. He is a coauthor of a recent report detailing the role of behavioral science

in medicine, and he served on the Behavioral and Social Science Subcommittee that revised the Medical College Admission Test (MCAT)—work that was featured in the *New England Journal of Medicine* and *The New York Times*.

At UCSF, Professor Satterfield directed the Social and Behavioral Sciences curriculum for medical students and internal medicine residents and has been nominated for multiple teaching awards, including the Robert H. Crede Award for Excellence in Teaching and the Kaiser Award for Excellence in Teaching. He is the chair of the Academy of Medical Educators' Scholarship Committee and received the academy's Cooke Award for the Scholarship of Teaching and Learning. Professor Satterfield is often competitively selected to teach at national conferences for a wide variety of health professionals, including physicians, nurses, social workers, and psychologists.

Professor Satterfield grew up in Middle Tennessee and was the first in his family to attend college. After living in Boston and Philadelphia for school, he moved in 1994 to San Francisco. He is an avid traveler and enjoys a large circle of friends and family.

Professor Satterfield's other Great Courses are *Cognitive Behavioral Therapy: Techniques for Retraining Your Brain* and *Mind-Body Medicine: The New Science of Optimal Health*. ■

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# Disclaimer

This series of lectures is intended to increase your understanding of the emotional and social lives of children and/or adults and is for educational purposes only. It is not a substitute for, nor does it replace, professional medical advice, diagnosis, or treatment of mental health conditions.

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## Scope

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# Boosting Your Emotional Intelligence

Can science teach us about the emotional skill sets that are most important for professional and personal success? Can you improve your own emotional skills or the skills of others? The answer to both of these questions is unequivocally yes, but there's a lot of science and myth to untangle. In this broad, evidence-based course, you will explore the rich and complex world of emotions and

emotion regulation and how emotions are almost continually at play in our lives. This material will be presented through the framework of emotional intelligence, or EQ—a concept made popular in the late 1990s, when it was lauded as the most important ingredient for success. This course will separate fact from fiction and demonstrate how a robust research literature can still point us to impressive and important findings that we can apply to everyday life.

In this course, you will learn how to assess your own EQ. You will build skills for emotional intelligence to improve your workplace interactions, your relationships with family and friends, and even your mental and physical well-being. Far from being a distraction from the business of living, research suggests that knowing how to manage your emotions—your EQ—is a critical, teachable skill with the potential to change your life.

This course is divided into 5 sections. The first section, which is about emotions and EQ fundamentals, you will explore the history and basic concept of EQ. You will learn how to measure your own EQ and how to evaluate the quality of the many EQ quizzes and surveys that exist. You will explore the phenomenon called emotions and how they relate to our brains, minds, and bodies. This section ends with a more critical look at the impacts of emotions in multiple life domains. Emotions may not be the only factor at play in our lives, but they are commonly the center point of our experiences.

In section 2, you will explore specific EQ abilities and skills and how they develop. You will focus on the 4-branch model of EQ, which includes the ability to perceive and express emotions, use emotions to facilitate memory and decision making, understand emotions, and regulate emotions in the self and others. The origins of EQ—what little we know—are discussed, along with the potential of EQ training programs (socioemotional learning) delivered by parents and schools.

Section 3, which is about EQ in relationships, introduces the related but distinct concept of social intelligence using current examples of political conflict, racial tension, and anger management. Emotion regulation and communication skills are presented as possible tools

to facilitate conflict resolution, deepen intimacy, and promote a sense of shared responsibility and commitment.

EQ in the workplace is explored in section 4. Many of us spend (or have spent) a large percentage of our lives in the workplace and are well acquainted with how emotions can help or hinder our professional accomplishments. This section turns to the business school literature, using case studies and even specific business EQ assessment tools that highlight why emotion regulation skills in the workplace are critical to prevent burnout and promote success. What makes a great leader? How can we change workplace culture? These and other questions are addressed.

In the final section, on EQ and health, you will analyze the role of emotions in health-related behaviors such as smoking and drinking alcohol, emotions and willpower, and emotion dysregulation in distress disorders such as depression and anxiety. You will learn about new psychotherapies that specifically target emotion regulation skills, such as dialectic behavioral therapy and emotional regulation therapy. You will explore the link between the management of chronic diseases such as diabetes, obesity, and heart disease and emotion regulation skills, and you will discover how to harness emotions to get the most out of your health-care team. The course ends by looking at exciting and somewhat-disturbing technological applications of EQ that are emerging in the near future.



## Lecture 1

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# What Is Emotional Intelligence (EQ)?

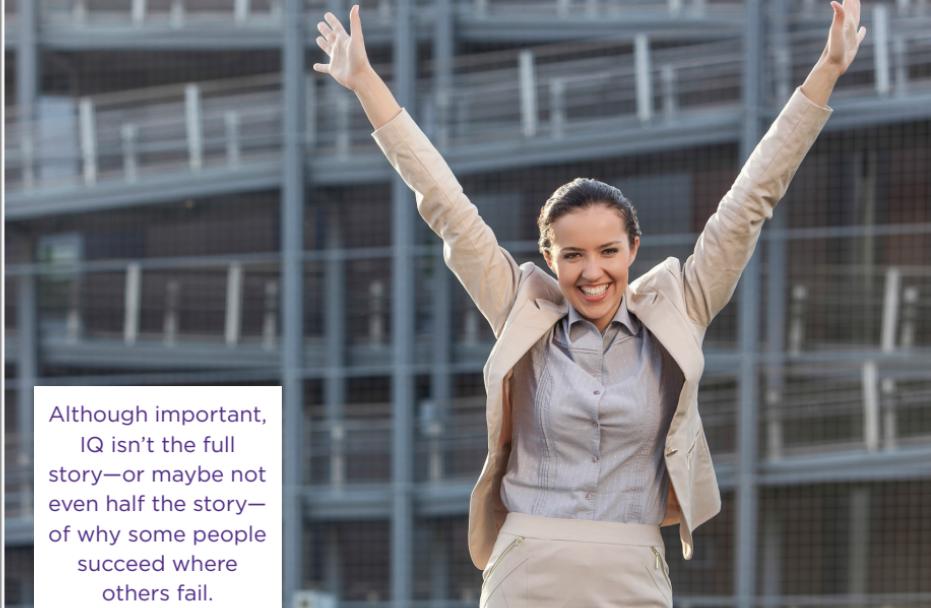
This course on emotional intelligence, or EQ, will tackle the important question of how to regulate, or even use, your emotions to your best advantage. The course will address emotions and their relation to physical health, relationships, and communities. As part of this journey, you will explore biology, cognition, culture, and even new digital tools intended to make you more emotionally skilled. In this lecture, you will learn about the history and meaning of the construct of emotional intelligence.

## The History of EQ

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- The topic of emotional intelligence often triggers personal reactions. It's easy to relate to, but it might evoke pain, pleasure, defensiveness, or moral judgment. This makes it essential to keep an open mind and to use any evoked emotions or cognitions as grist for the mill. Observe them, study them, and decide if you want to change them.
- Emotional intelligence is the mental ability that lurks amid the emotions. The goal of this course is to provide a sort of emotional GPS, a navigational tool—but ultimately your destination depends on where you choose to go.
- Emotions have been the subject of research, philosophy, art, and music for centuries. Even the ancient Greeks were writing about “temperaments” and their relationship to the 4 humoral elements of life: yellow bile, black bile, phlegm, and blood—all predictive of emotional experience depending on how they were balanced. We see the emergence of Stoicism and the primacy of rationality with philosophers such as Socrates.
- The Apollonian approach to life was pushing back. Emotions were to be tamed and controlled. Plato and Aristotle saw emotions as more than feelings or passions and argued that they include cognition and even affect our sensory perceptions and health.
- Christianity developed its own ideologies about emotions and, for the most part, saw the passions as something to be overcome. You turn the other cheek, love one another, and live a life of compassion and kindness while suppressing envy, anger, and lust.
- Reflecting on all of these complex and interesting historical and cultural influences is important because it helps you understand where your current beliefs and rules about emotions come from, and by knowing where they come from, you might have an easier time of deciding if you want to keep or change them.

- Western psychology began exploring emotions in earnest in the early 20<sup>th</sup> century. Carl Jung suggested that some people rely heavily on a “feeling” function to perceive and understand the world. This system was used by a mother-daughter team to create the Myers-Briggs personality inventory.
- The neo-Freudian psychoanalysts of the 1940s and 1950s talked about insight and understanding of emotions that may have been warped by psychological defenses. Carl Rogers, a humanistic psychologist, taught us about the emotional power of unconditional positive regard and empathy and how they influence relationships and have the power to heal.
- But EQ isn’t just about emotions. It is also about intelligence. Intelligence, too, has a very long and interesting history, starting with Pythagoras, who describes intelligence as “winds,” or Descartes, who tells us that intelligence is simply the ability to tell the difference between true and false.
- The definition of intelligence that is probably most cited in modern times is that of David Wechsler, who said intelligence is “the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment.” Although rationality is called out, emotions aren’t excluded. As early as 1940, he referred to “non-intellective” as well as “intellective” elements, by which he meant affective, personal, and social factors. But where exactly does intelligence come from?
- When considering the etiology or origin of a trait or skill or even a disease or condition, we can consult the biopsychosocial model, which reminds us to consider variables that occur in 3 overlapping categories: biological, psychological, and social. For intelligence, this remind us that our genetic inheritance undoubtedly plays a role.
- We can also consider the classic enriched environment studies of Mark Rosenzweig in the 1960s. These studies compared the



Although important, IQ isn't the full story—or maybe not even half the story—of why some people succeed where others fail.

development of intelligence in rats raised in enriched versus impoverished environments.

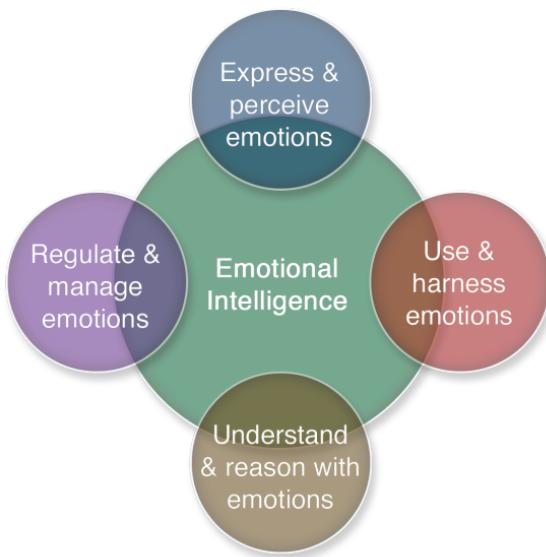
- We now know that parental attention, environmental stimuli, preschool programs, and the like are important in developing neural growth and IQ in our children. We've learned that exercise, nutrition, and stressors—particularly early childhood poverty, neglect, and violence—can have profound effects on IQ.
- IQ has been shown to be associated with morbidity and mortality, social status, and academic performance. There are weaker links to success and really no link to relationships or quality of life. Although important, IQ isn't the full story—or maybe not even half the story—of why some people succeed where others fail.

## EQ Models

- In 1990, Peter Salovey and John D. Mayer published their first paper on emotional intelligence, effectively melding the emotion and intelligence literatures from an academic perspective. They

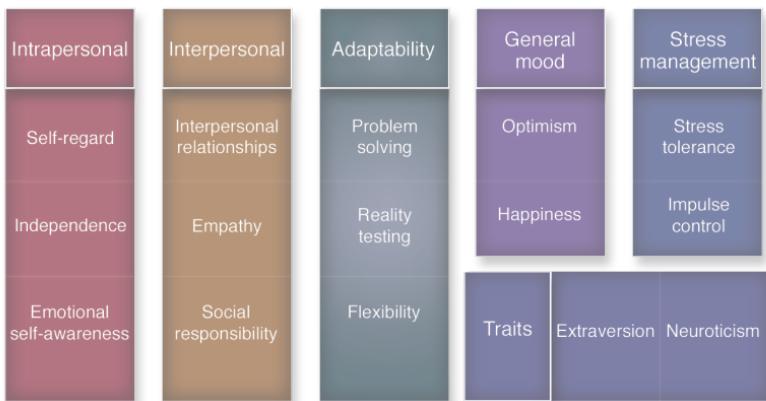
have since gone on to develop assessment measures and a careful body of research looking at the construct of EQ.

- Most people heard about EQ in the mid-1990s with the publication of Daniel Goleman's book *Emotional Intelligence*, followed by the cover of *TIME* magazine that proclaimed that EQ "may be the best predictor of success in life, redefining what it means to be smart."
- There are 3 leading theories of EQ: those developed by Salovey's group at Yale University (the integrative ability model), Goleman's model, and the model developed by Reuven Bar-On that goes a bit further to include both abilities and personality traits (the mixed model).



- The definition of EQ as developed by Salovey and Mayer along with another Yale faculty member, David Caruso, is “the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in the self and others.”
- Note 4 elements, defined as abilities or skills that can be trained: the ability to express and perceive emotion, use emotion (harness for cognitive tasks), understand and reason with emotion, and regulate or manage emotion in the self and others.
- The regulation of emotion has emerged as a core element in understanding basic psychological processes and even psychopathology. According to James Gross at Stanford, emotional regulation is conceptualized as the process of “shaping which emotions one has, when one has them, and how one experiences or expresses these emotions.”
- In 1995, Goleman’s popular book, *Emotional Intelligence*, came out. He conceptualized EQ as a set of skills and personal competencies. He described 5 domains that included knowing your emotions, managing your own emotions, motivating yourself by marshaling emotions (such as delaying gratification or entering flow states), recognizing and understanding other people’s emotions, and managing relationships.
- While there are overlaps with the Salovey model, Goleman brings in motivation and interpersonal relationships, ideas that really resonated with the business community. He more strongly believes that we need to control and “regulate” our emotions, which might explain his ongoing interest in meditation.
- In his book, Goleman claims that “at best IQ contributes about 20% to the factors that determine life success,” which implies that 80% is EQ—a claim that was erroneously repeated on the cover of *TIME* magazine. These misimpressions were addressed in the introduction to the 2005 reedition of his book.

- The third EQ model was developed by Reuven Bar-On, who defines emotional intelligence as “an array of noncognitive capabilities, competencies, and skills that influence one’s ability to succeed in coping with environmental demands and pressures.”
- The Bar-On model of 1997 includes intrapersonal skills (such as self-awareness and independence), interpersonal skills (such as empathy), adaptability (such as flexibility and problem solving), stress management, general mood (such as happiness and optimism), and traits (such as extroversion or neuroticism).



- The big difference with this model is the intentional inclusion of personality traits, IQ, and other cognitive skills. While some people see this as the most complete picture of EQ, many find it too overlapping with other, better-defined constructs. Besides, if it's a trait, then it probably can't be changed.

## Emotion Self-Monitoring

- Start with some informal emotion self-monitoring by paying attention to your own emotional states, including where they occur, what triggers them, and what happens once they are active. Consider keeping a log or maybe just jotting down

a few notes. Eventually, the goal is to look for patterns and opportunities.

- A word of caution about emotional perfectionism: We shouldn't expect ourselves to be positive and constructive all the time. Life is just too messy and complex for that. Emotions—both positive and negative—are important, have meaning, and are worth exploring.

### Suggested Reading

Bar-On, Reuven Bar-On.org Website, <http://www.reuvenbaron.org>.

———, "The Bar-On Model of Emotional-Social Intelligence (ESI)."

Goleman, *Emotional Intelligence*.

Mayer, Roberts, and Barsade, "Human Abilities."

Mayer, Salovey, and Caruso, "Emotional Intelligence."

Mayer, Salovey, Caruso, and Cherkasskiy, "Emotional Intelligence."

Salovey and Mayer, "Emotional Intelligence."

### Questions to Consider

1. Compare and contrast the 3 leading models of EQ. When would you want to use an ability model? When would a trait model be preferable?
2. Create a list of what you perceive to be your personal EQ strengths and challenges. What personal goals do you have in regard to improving your EQ? How will you measure your progress?



## Lecture 2

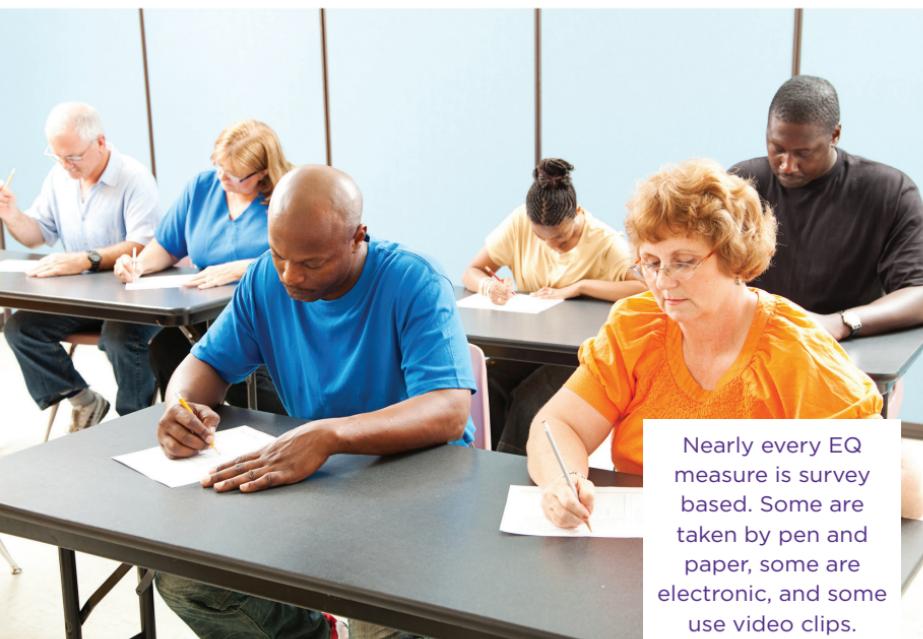
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# Measuring EQ

This lecture will tackle how to measure emotional intelligence. Reliable measures of EQ are important for research—in terms of discovering what it predicts and how it can change—but also for clinical reasons. What are an individual's particular strengths and weaknesses when dealing with emotions? EQ is complex and challenging to assess. The measure you choose in large part depends on the model of EQ that you follow. Ultimately, you need a better, more data-based sense of what you do well and what you do that might need some improvement.

## EQ Testing

- IQ testing typically takes about a half day, or at least several hours, and is composed of quite a few different subtests. You end up with an overall IQ, but you also have subscores for verbal IQ, memory recall, spatial reasoning, and other subtypes of intelligence.
- Most IQ tests—the Wechsler Adult Intelligence Scale and the Stanford-Binet Intelligence Scale are probably the most common—are standardized to an average of 100 with a standard deviation of 15. In other words, anyone with an IQ between 85 and 115 would be of average intelligence. Geniuses have IQs of more than 130, but a high IQ is not a guarantee of success.
- EQ is similar, but there are different models of EQ, such as the ability model of John D. Mayer, Peter Salovey, and David Caruso from Yale University; Bar-On's model, which mixes traits and abilities; and Daniel Goleman's more competency-focused model.
- Nearly every EQ measure is survey based. Some are taken by pen and paper, some are electronic, and some use video clips to get emotions stirred up first. Some are self-report, and some are essentially quizzes or exams. There are caveats that should go with any psychological survey, whether it is EQ or not.
- Psychometrics is essentially the statistics of tests—in this case, surveys. Psychometrics provides tools that allow us to assess the validity or quality of a survey. Even though survey studies are incredibly common, most surveys are atheoretical, poorly constructed, and fatally biased. How can you know when a survey is the real deal?
- Reliability is the extent to which repeatedly measuring the same property produces the same result. Validity is the extent to which a survey question measures the property that it is supposed to measure. Common issues that make a survey unreliable or invalid include demand characteristics, flawed questions, and sampling errors.



Nearly every EQ measure is survey based. Some are taken by pen and paper, some are electronic, and some use video clips.

- Demand characteristics refer to the effect that the test or testing environment has on the test taker. Does he or she feel comfortable to tell the truth?
- Flawed questions are often a result of the use of jargon, double-barreled questions, or just poorly constructed sentences.
- Sampling errors result from having too few items or too few subjects to really be able to say anything definitively.
- When you are looking at a survey, perhaps something you find online, see what the generators of the survey have to say about the instruments reliability and validity. They may talk about test-retest reliability. If you take the test twice, how closely do your scores correlate? Often, they will report a statistic called Cronbach's alpha, which essentially measures the intercorrelations of items within the test that are supposed to be measuring the same thing. In general, you want a Cronbach's alpha of 0.7 or higher.

- For our measures of EQ, we want the surveys to have high validity and reliability, and ideally they should report statistics such as Cronbach's alpha with the survey.

## The MSCEIT

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- The most strongly theoretically based measure with the most extensive research support is called the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT). This test is based on their 4-branch model of EQ: perception and expression of emotion, using emotion in thought, understanding and analyzing emotion, and management of emotion in the self and others.
- The MSCEIT is a 141-item test mapped to each of the 4 branches. It takes about 30 to 45 minutes. Each branch has 2 tasks:
  - **Perception:** You look at faces, pictures, and landscape abstract images and have to be able to perceive the emotions that are communicated therein.
  - **Use:** You talk about sensations that have to facilitate emotions in yourself or in others to influence cognition.
  - **Understanding:** You read vignettes and understand different blends or ways to change emotions in others or the self.
  - **Management:** You focus on how to solve those emotionally charged vignettes and scenarios.
- In statistical analyses of the MSCEIT, factor analysis really only supports 3 of the 4 branches. The second branch, using emotions to facilitate cognition, often gets absorbed.
- MSCEIT scores are reported like IQ scores, so an average score is 100, and the standard deviation is 15. With this test, 68% of people fall within 1 standard deviation, and 95% of people fall within 2 standard deviations. You get a total EQ score, and you get 4 branches of scores. The test-retest reliability for this test is 0.86, and it has a Cronbach's alpha of around 0.8.

- To find the MSCEIT, visit [www.MHS.com](http://www.MHS.com). The test is sold in packages with users guides, score sheets, item booklets, etc. It will cost about \$200 or more if you want a detailed report.

## The SSEIT

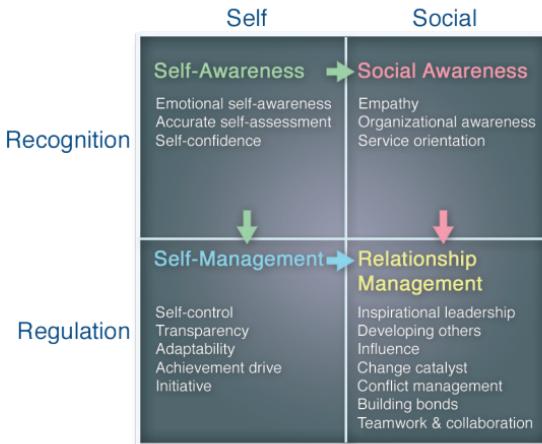
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- The Schutte Self-Report Emotional Intelligence Test (SSEIT), developed by Nicola Schutte and others, includes 33 items of one-factor solutions with 3 categories: perceiving and expressing emotions, regulating emotions, and utilizing emotions when solving problems. Note the overlaps with the Salovey model of emotional intelligence.
- Items on the Schutte test are rated on a scale of 1 to 5 from “strongly disagree” to “strongly agree.” Scores on the Schutte test have strong correlations with personality factors such as neuroticism and have a big overlap with personal wellness measures such as burnout. Those correlations can sometimes go up to as high as 0.7.
- The test’s Cronbach’s alpha is 0.90, and its test-retest reliability is 0.78. It is free for research and clinical purposes. Go to [www.scholar.google.com](http://www.scholar.google.com) and type in “Schutte Self-Report Emotional Intelligence Test.” The PDF of her original paper is free and includes the scale.

## The ESCI

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- The measure of EQ developed by Daniel Goleman and Richard Boyatzis also concerns abilities but adds social competencies. He presented his model using a 2-by-2 grid. His newest assessment tool, the Emotional and Social Competence Inventory (ESCI), corresponds to this grid.
- The ESCI measures 12 competencies with 68 questions divided into 4 clusters corresponding to Goleman’s 2-by-2 EQ model: self-

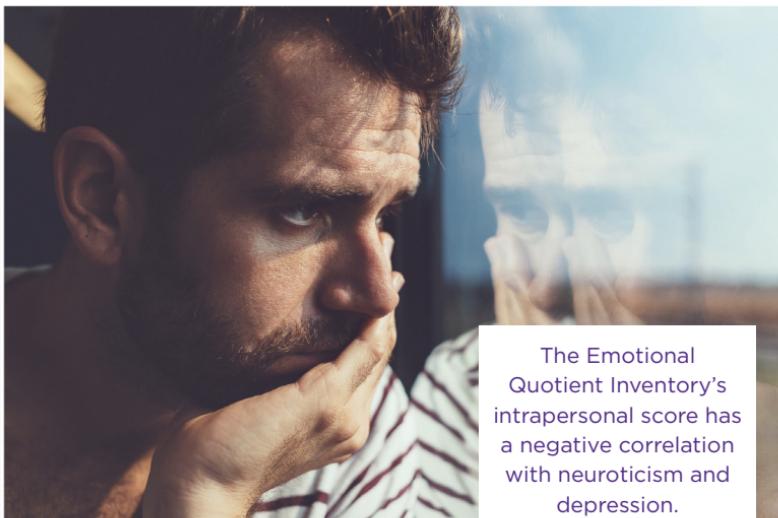


awareness, self-management, social awareness, and relationship management.

- The ESCI is the newer version of what used to be called the Emotional Competence Inventory 2.0. It is in improvement in that it collapsed the original 18 categories to 12 and improved the psychometrics. It has a Cronbach's alpha of around 0.8 and a test-retest reliability of between 0.5 and 0.7, depending on the competency.
- Google “ESCI Goleman” to get the PDF of the user manual, but you have to pay for the test and the scoring.
- What's new and interesting about the ESCI is that it is intended to be what's called a 360° tool, which offers a full, circular view of someone. You fill out the measure yourself, but so do your coworkers, boss, friends, and anyone else. This has made the instrument popular in business settings to help employees—especially managers and leaders—grow, and it is a staple for executive coaching.
- These types of 360° evaluations are becoming quite common, although research validating their use has been lagging thus far.

## The EQ-i

- The Emotional Quotient Inventory (EQ-i), which was developed by Reuven Bar-On and first published in 1996, includes both abilities and traits. The original version of the EQ-i comprises 133 items in the form of short sentences using a Likert scale ranging from “very seldom or not true of me” (1) to “very often true of me or true of me” (5).
- You get a total score plus 15 subscales. There are correlations with depression and with measures of extroversion and introversion but almost no correlation with the MSCEIT.
- The EQ-i is also owned by Multi-Health Systems ([www.MHS.com](http://www.MHS.com)), so it is not available for free. If you purchase it, the EQ-i 2.0 analyses 5 key areas: intrapersonal, interpersonal, adaptability, general mood, and stress management.
- This test has a Cronbach's alpha of between 0.8 and 0.9. The intrapersonal score has a negative correlation with neuroticism and depression. The interpersonal category correlates with



The Emotional Quotient Inventory's intrapersonal score has a negative correlation with neuroticism and depression.

extroversion but also with agreeableness and conscientiousness. The adaptation and stress management scores are very similar to the intrapersonal, so there are negative correlations with neuroticism and depression.

- The EQ-i has been strongly criticized because of its strong overlap with standard measures of personality and mood and its lack of correlation with measures such as the MSCEIT. It's measuring something, but is it EQ? It has also suffered from a lack of rigorous studies, and many of the publications using it are not peer-reviewed.

## General References

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- Overall, your best resource library for EQ measures can be found at [www.eiconsortium.org](http://www.eiconsortium.org), where free summaries and many original articles are available.
- Another brief, free measure can be found on the Mind Tools website at <https://www.mindtools.com/pages/article/ei-quiz.htm>. It only has 15 items and is based on Goleman's competencies. This test has no known psychometrics, so it cannot be considered a valid or reliable measure, but it might still generate some interest.

## The TMMS

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- The Trait Meta-Mood Scale (TMMS) is a commonly used instrument that doesn't give a global EQ score but does tap into 2 key factors: attitudes and emotion regulation. The TMMS is a 48-item self-report measure with 3 subscales based on the Mayer and Salovey model of EQ.
- The TMMS measures stable and general attitudes about moods and the degree to which individuals attempt to manage or repair mood experiences. It measures attention to moods,

clarity (discrimination between moods), and regulation (repair of moods). It focuses on thoughts and attitudes regarding emotional experiences, so it only focuses on emotions that have already happened.

- The overall coefficient alpha is adequate, at 0.82. There is no cost for using the TMMS. It has been widely used in basic emotion science research.

## Suggested Reading

Bar-On, *The Emotional Quotient Inventory (EQ-i)*.

MacCann and Roberts, "New Paradigms for Assessing Emotional Intelligence."

Mayer, Caruso, and Salovey, "Selecting a Measure of Emotional Intelligence."

Mayer, Salovey, and Caruso, "Emotional Intelligence."

Mayer, Salovey, Caruso, and Cherkasskiy, "Emotional Intelligence."

Salovey, Mayer, Goldman, Turvey, and Palfal, "Emotional Attention, Clarity, and Repair."

Schutte, Malouff, and Hall, et al, "Development and Validation of a Measure of Emotional Intelligence."

## Questions to Consider

1. Which of the many EQ measures mentioned in this lecture did you feel most drawn to? Why? What dimension or additional questions might you add to it to improve it?
2. Do think people are naturally born with either high or low EQ? How or why? If it is inherited, can it still be changed?



## Lecture 3

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# Exploring Emotions

In this lecture, you will take a deep dive into the raw material that makes our lives so much richer and more interesting: emotions. You will explore what is meant by emotions, including what they are, what they are for, and how we think, use, and experience them in our bodies.

## Emotions

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- Our culture, like many, seems to have an ambivalent relationship with emotions. We may see them as the pinnacle of human experience: passion, love, joy—the stuff of poetry and plays and art. But we may also see them as a driving force for evil deeds, hate crimes, crimes of passion, or maybe even much of the pain and suffering in the world.
- It can be argued that emotions—a priori—are neither good nor bad. They may be experienced as pleasant or distressing, but that doesn't necessarily correspond with their value. Our goal is to understand the range of emotions we might experience and to achieve some clarity in why we have them and how to use them constructively.
- Emotions are typically defined as multifaceted, whole-body responses that involve coordinated changes in the domains of subjective experience, behavior, and peripheral physiology.
- Emotions arise when an individual attends to a situation and evaluates it as relevant to his or her goals. This definition presupposes a chronological sequence of events, involving, first, a real or imaginary situation; second, attention to and evaluation of the situation, where we need attention or focus (concentration) followed by a subjective cognitive appraisal; and third, an emotional response, which could be behavior, physiological changes, or following other urges the emotion generates.
- However, this emotion-generating process cycles pretty rapidly, and your responses feed back into the mix to shape subsequent cycles. This is why the way we respond emotionally is so important to understand and manage.
- This well-studied process is called the modal model of emotions and was developed by James Gross, an emotion science researcher at Stanford University. In this linear model, we move

from situation to attention and appraisal and then end with response. The response may then feed back to the situation.

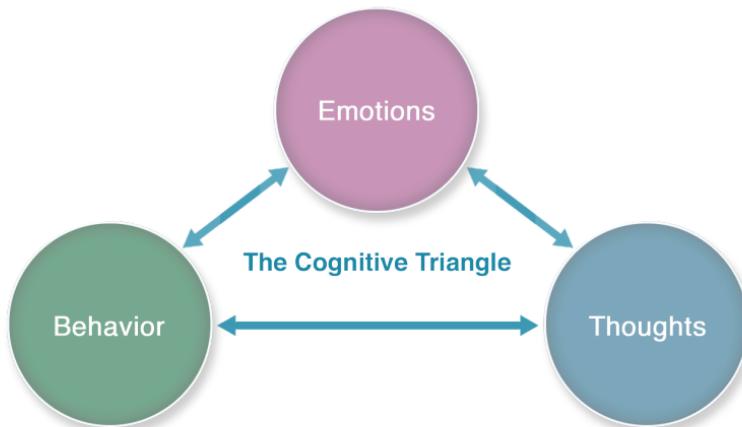
- According to the model, emotions involve person-situation transactions that compel attention, have meaning in light of currently active goals, and give rise to coordinated multisystem responses that feed back into the process in important ways.

- **Situation.** The first step in the process is the situation. This refers to situation in its most obvious meaning: You are walking down the street and a growling dog jumps out at you. But situations can also be internal—something that is only happening in your mind. When we recall a memory or have a fantasy, our internal situation gets the emotions process going.
- **Attention.** You have to pay attention to what's happening in the situation. There's a lot of nuance to attention. Two people can be in exactly the same situation but can be attending to 2 different things and having a very different experience. Moreover, energy goes where attention flows. Attention directs our limited resources, meaning we have less to do something else—learn, think, grow, change. Attention can be automatic, such as when we orient to a loud noise, but it can also be effortful and intentional, and it can take years to master.



- **Appraisal.** This is really what cognitive therapy is all about. An appraisal is a subjective assessment of a situation's meaning in regard to relevant goals. It is influenced by the objective features of the situation, but there's always a great deal of ambiguity. Why is that man smiling at me? Why didn't my sister call me back? Our appraisals of the situation are very closely related to the subsequent emotional experience we will have. Cognitive behavioral therapy tells us that we develop habits in the ways we appraise events. The depressed person appraises rejection more often; the anxious person appraises more threat and danger.
- **Response.** This final step or outcome of the process includes experiential, behavioral, and neurobiological responses. There's the effect of the emotion on your body—how it feels, the urge to run or fight, the butterflies in your stomach, the angry voice you use to lash back. The responses that are evoked often feed directly back into the situation and may escalate or defuse the emotion.

- Emotions motivate withdrawal or approach, and emotions are grounded in our personal goals. Emotions influence learning and memory and in this way can further exert an influence on motivation.
- Our object-recognition systems and spatial-processing systems address these questions: What is it? Where is it? Our emotion-processing networks address these questions: Is it good for me? Is it bad for me? What should I do about it?
- The ABCs of cognitive behavioral therapy (CBT) provide a linear model that helps us understand why particular consequences occur. The A is the antecedent, or trigger, or the situation in the modal model. The B is the belief or cognition; it would be called the appraisal in the modal model. The C is the consequences, which include emotions but also behaviors or even effects on your body.
- In CBT, you're working on changing the beliefs or appraisals. In the CBT triangle, emotions are at the top, and thoughts and



behaviors are at the bottom. To understand emotions, we need to look at thoughts and behaviors.

- As we consider the function of emotions, it is important to acknowledge and appreciate the incredible breadth of what we're talking about. Emotions include everything from irritation at an email, amusement by a meme on social media, anxiety about a job evaluation, pleasure when enjoying a piece of dark chocolate, and hopefulness at a medical appointment to see if your cancer's been cured.
- But despite all this breadth, emotions are goal directed. In each instance, there is an implicit or explicit goal. It may be long term or short term, realistic or aspirational, but there's always a goal there. Knowing the goal helps you understand the emotion.

## Emotional Families

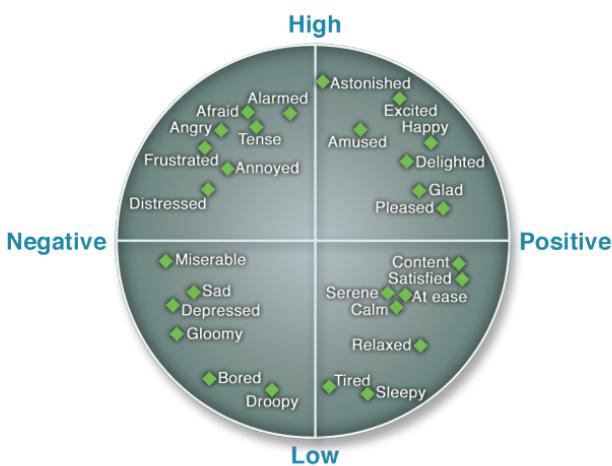
- Is there a basic, universal set of emotions across cultures? If there is, which emotions are universal? There are approximately 552 emotion words in the English language, so we need a much smaller set.

- Paul Ekman, an emeritus professor at the University of California, San Francisco, addressed these questions by focusing on facial expressions, given that across all cultures all individuals have the same facial musculature. He took pictures of his graduate students making different facial expressions and then traveled to different countries and cultures around the world.
- For example, Ekman would show the picture of an angry face and ask people what just happened to the angry person. In their own language and terms, from their own cultural perspective, they would then tell a story that was representative of anger.
- After doing many iterations of this study, Ekman was able to deduce that there are 6 primary emotions, which he sometimes calls the 6 primary colors: happiness, surprise, sadness, anger, disgust, and fear.
- Because there are many more than 6 emotions, Ekman came up with the idea of blended emotions—such as envy, hope, despair, and love—that mix the basic emotions together in different proportions. For example, the emotion of contempt is most likely composed of a blend of anger and disgust.
- An interesting way to visualize the groupings or relationships between emotions is with the Atlas of Emotions, which was created by Paul Ekman and his daughter Eve. You can find it online for free at [www.atlasofemotions.org](http://www.atlasofemotions.org).
- What you will see are family groups of emotions, which will help build your emotional vocabulary, and you will see linkages to emotional states, actions, triggers, and moods. For example, if you click on “sadness,” you will see a range of sad-related states based on least to most intense, with disappointment listed as the least intense, resignation in the middle, and anguish as the most intense. It is a great tool to begin exploring emotions and to start building a foundation for more emotional awareness and emotional intelligence.

- We have a range of different emotions because each has a different function. Sadness is a consequence of loss. It triggers reflection and support seeking. Anger emerges in reaction to a perceived injustice or violation. It gives you anger to correct the wrong. Fear alerts you to a possible threat and tells you to flee or fight. As you explore the emotional families, consider their functions and how or when that might be helpful or hurtful. Emotions aren't necessarily good or bad or true or false; they are helpful or not helpful.

## Continuum Models

- A simpler and commonly used alternative model to the Atlas of Emotions is James Russell's circumplex model of affect. In this model, 2 orthogonal lines create 4 quadrants, with level of arousal from high to low and valence from positive to negative. You can quickly assess your mood simply by placing a dot in one of the quadrants. Are you aroused? Are you feeling positive or negative? While this won't get you far in understanding your emotion, it is a quick way to assess an emotional response you might be having and whether or not an emotional-regulation strategy you are trying out is working.



- The most commonly used measure of positive and negative affect or emotion is the positive and negative affect schedule (PANAS), developed by David Watson, Lee Clark, and Auke Tellegen in 1988. The PANAS has 2 scales—positive and negative—and is composed of 20 items. The items present a single emotion or feeling words and ask how strongly you've felt that emotion in a specified time range. Examples include asking how much you have felt distressed, guilty, ashamed, hostile, interested, attentive, excited, enthusiastic, inspired, and proud. The PANAS is owned by the American Psychological Association, but there are a number of online sites that have posted the full scale if you are interested in taking it.
- Another quick but still interesting assessment tool is the Photographic Affect Meter (PAM), developed by J. P. Pollak. You typically get a text message telling you to check your mood. When you click on the app or the link, you see an array of pictures and you simply pick the one that matches your mood in that moment. The pictures are selected to represent all 4 quadrants of the circumplex model: positive and negative affect and high and low arousal. The PAM has shown good correlations with the PANAS, suggesting it might be a quick, cheap, and valid way to assess emotions in the moment.

### Suggested Reading

Ekman, *Emotions Revealed*.

Mayer, Salovey, and Caruso, "Emotional Intelligence."

Mayer, Salovey, Caruso, and Cherkasskiy, "Emotional Intelligence."

Russell, "A Circumplex Model of Affect."

## Questions to Consider

1. Which universal emotion do you find most puzzling to understand or most difficult to express? Why? Where do you think that challenge comes from?
2. How does your cultural background influence your experience of the universal emotions? Do these cultural rules vary by gender or age?



## Lecture 4

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# Embodied Emotions

In this lecture, you will dig deeper into the functions, and especially the bodily effects, of emotions. You will look more closely at whether there is a unique physiological signature for each emotion. By understanding how emotions affect our bodies, we might better understand why we have headaches, backaches, insomnia, sweaty palms, nausea, or even obesity, chronic pain, or ulcers.

## Bodily Senses

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- The embodied experience of emotions includes the effects emotions have on our bodies and how our bodies communicate or even alter our internal emotional experiences. There are a few perceptual systems that help us understand how we are able to sense our internal states, including those that are either the cause or effect of an emotion: interoception and proprioception.
- Interoception is defined as the sense of the physiological condition of the body. It is a sense of knowing what your body feels like on the inside: Is your heart rate up or your temperature down? Are you hungry or thirsty? Most people don't think of this as a sense, but in some ways it is, and like other senses, sometimes we are extra-sensitive and sometimes we aren't.
- One aspect of emotional intelligence is having access to internal physiologic data while not allowing ourselves to be overwhelmed or to create additional and unnecessary arousal by being hypervigilant about our bodies.
- The most common way to measure your interoceptive skills is with the multidimensional assessment of interoceptive awareness (MAIA) scale, developed by Wolf Mehling. This survey is in the public domain and can be found online for free. It has 32 items rated from 0 to 5 that are used to create 8 different subscales. It is available in more than a dozen languages.
- There's some interesting new work on how disrupted interoception may be part of substance use disorders or binge eating disorders. Interoception is defined as receiving, processing, and integrating sensory inputs from inside the body. If you are less able to tell that you are becoming impaired from alcohol or maybe unable to tell that you have already eaten too much, then the normal mechanisms that should slow you down aren't able to kick in.
- The second bodily sense is proprioception, which is defined as your sense of position and movement. Position mostly refers to

your posture and the position of your body parts. Movement tells you how much strength or force you are using but also gives you information on velocity, trajectory, etc.

- Proprioception is critical for coordination and is something you might expect more of in an athlete or a ballet dancer, but it is another important feature of EQ. Through body language, our movement and position can communicate a great deal of emotional information.

## The James-Lange Theory of Emotion

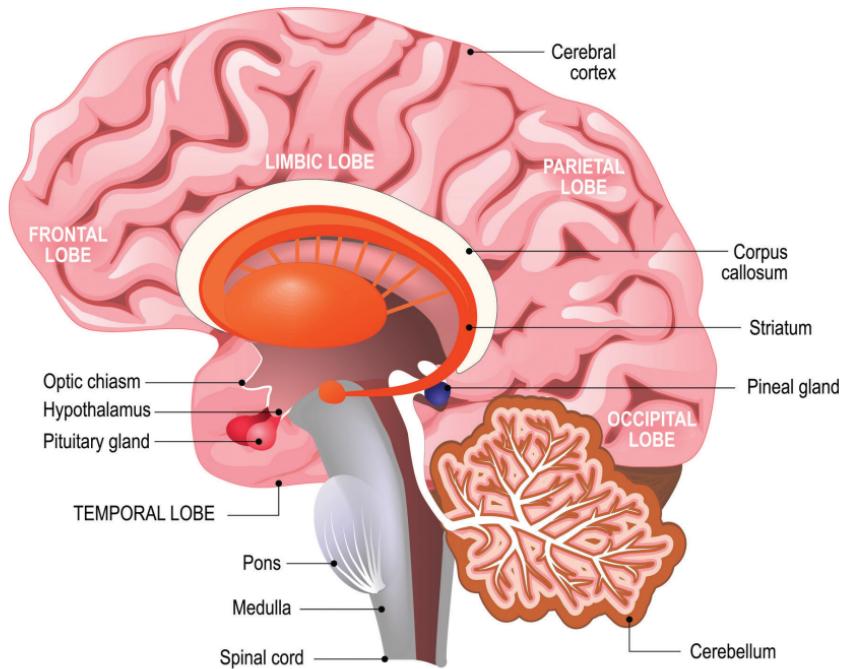
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- From an embodied emotional sense, we want good interoception and proprioception both as data to be read but also as stimuli that may change our emotional state. Maybe the movement or sensation comes before the emotion is created.
- This idea comes from the James-Lange theory of emotion and gives us something called the facial feedback hypothesis. In this theory, there are 3 components of emotions: physiology, feeling, and behavior. William James and Carl Lange thought that physical expression and behavior actually precede the emotion.
- To test this, you'd need to first create a facial expression—for example, for happiness—to see if it actually created an emotion later: the “fake it ‘til you make it” or “smile though your heart is breaking” idea. The problem is that if you tell someone to look happy, you've already tipped them off.
- Psychology researcher Robert Zajonc devised a clever experiment to avoid this. Half of the subjects held a pen between their teeth, forcing them to make a facial expression much like a smile. The other half of subjects held the pen in their pursed lips, indicating an expression of distaste.
- While holding the pen, both groups watched funny cartoons and were asked to rate their happiness and enjoyment. The teeth

holders were happier even though they were watching the same cartoons, providing at least some limited support for the facial feedback hypothesis.

## The Cannon-Bard Theory of Emotion

- Walter Cannon and Philip Bard believed that emotions originate in the central nervous system, with the resulting emotional experience growing out of unconscious neurological activity. The Cannon-Bard theory of emotion, developed in the 1920s, was based on the observation that people and animals with severed spinal cords could still experience emotions. Note that like the James-Lange theory, this theory focuses on physiology.
- Conceptually, it is easy to think of the brain in 3 parts, or what used to be called the triune brain. In the back and downward are the



brainstem and the midbrain, or what some have called the reptilian brain, because it is responsible for very basic and automatic functions. About in the center of our brains is the limbic system, or mammalian brain, which contains a number of structures relevant to emotion, including the amygdala and hippocampus.

- The highest level in the triune brain is the cortex: all the wrinkles and folds you see on the outside. Our large frontal lobes are what makes humans so unique. Our frontal lobes take up about a third of our cortex and are responsible for much of what we would consider thinking, decision making, planning, goal setting, and other executive functions.
- Among neuroscientists, the concept of the triune brain is seen as outdated. We really don't have a separate reptilian or mammalian brain, and emotional processing and cognition are not distinct systems. Brains don't have sedimentary layers that you can peel back.
- We know now that there is a lot of shared and distributed processing, and our brains are constantly being rewired as they respond to our life experiences. Nonetheless, the idea of a triune brain makes it easier to visualize the brain and think about brain functions.
- Within the limbic system, one key structure seems critically important for generating fear and anxiety and for influencing memory and learning: the amygdala. It contains 2 almond-shaped masses of neurons on either side of the thalamus at the lower end of the hippocampus.
- When the amygdala is stimulated electrically, animals respond with aggression. If the amygdala is removed, animals become very tame and no longer respond to things that would have caused rage before. They also lose their adaptive fear response.
- The prefrontal cortex refers to the front of the brain, behind the forehead and above the eyes. The prefrontal cortex appears to

play a critical role in the regulation of emotion and behavior by anticipating the consequences of our actions.

- The prefrontal cortex may play an important role in delayed gratification by maintaining emotions over time and organizing behavior toward specific goals. There are 2 hemispheres of our brain, so we have a right and left prefrontal cortex. Increased activation of the right prefrontal cortex is linked to more negative affect (withdrawal), and right prefrontal cortex activity is correlated with more amygdala activity.
- The left prefrontal cortex is associated with positive emotional states or the tendency to approach. Increased left prefrontal cortex activity is increased with meditation and relaxation exercises, while left prefrontal cortex damage is associated with depression.
- Emotions reside in both the central nervous system and the peripheral nervous system. The peripheral nervous system has 2 main branches: the autonomic and the somatic. We are most concerned with the autonomic, or automatic, system that responds to real or imagined stressors in our world and may help generate emotional experiences.
- The autonomic nervous system is divided into the sympathetic nervous system (think fight or flight) and the parasympathetic nervous system (think rest and digest). It is the interplay of these 2 balancing systems that gives physiologic feedback on what emotional states we might be experiencing.
- When afraid, your somatic nervous system is activated and causes a surge of adrenaline to be released. This increases your heart rate and blood pressure and alters blood flow. When we relax or do deep-breathing exercises, we activate the parasympathetic nervous system and experience a lowered heart rate, reduced muscle tension, and slower breathing.

- If you recall the circumplex model of emotion, there are 2 orthogonal scales: one for arousal and one for valence. Our autonomic nervous system is responsible for the arousal component.
- We know much more about the relationship of the central nervous system and the peripheral nervous system with emotions than was ever imagined in the Cannon-Bard theory. We have the limbic system with the amygdala and the hippocampus directing attention, laying down memories, and generating anxiety, fear, or anger.
- But we also have the closely connected prefrontal cortex, with bidirectional connections to the limbic system that can calm or intensify emotions. We have our somatic nervous system and autonomic nervous system to give us a sense of arousal. We have bottom-up and top-down explanations for emotional experiences and emotion regulation. What we are still missing is cognition.

## Schachter and Singer's Theory of Emotion

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- In 1962, Stanley Schachter and Jerome Singer proposed another physiologically based theory of emotion that included the potentially critical element of cognitive appraisal. In their view, the physiological arousal associated with emotion was basically undifferentiated.
- The individual perceives the arousal and labels it as a particular emotion based on a cognitive appraisal of the current situation. Physiology is critical to emotion, but the appraisal process is key—and our appraisals can be influenced by all kinds of things, such as our culture or context.
- To test this theory, Schachter and Singer recruited young professionals who were required to give a public speech. Half were told that they would have somatic nervous system arousal but that this was normal and it would actually help them seem energetic and focused. The second group weren't told this. Both

had somatic nervous system arousal, but the first group reported a more positive and successful experience. The second group had more negative emotion and stress. It was the appraisal of the physiological sensation that made the difference.

- Probably all of the theories—James-Lange, Cannon-Bard, and Schachter and Singer—are correct to some extent. Emotions are about what happens in our brain (the limbic system and the prefrontal cortex), body, and mind (cognitive appraisals).
- Our deep dive into embodied emotions was to help us perceive and understand emotions, perhaps so we can better regulate them. But we haven't yet proven that there is a distinguishable physiological signature. In fact, Schachter and Singer say that there isn't.
- What kinds of signatures might we look for? We might use electromyograms (EMGs) to look for different patterns of muscle tension or changes in facial musculature. We might look at posture or at body temperature, heart rate, or blood pressure. We might even use something called galvanic skin response (GSR), which is a measure of the electrical conductance on your skin. When we're anxious, we have tiny amounts of sweat that would change our GSR.
- Polygraph tests, or lie detectors, and modern biofeedback equipment can measure all of these physiological variables. But even with all of these interesting effects and measures, we don't yet have a way to identify a precise physiologic signature. We can easily measure arousal, but it mostly stops there.
- Not every emotion scientist is sold on the idea of brain regions being linked to particular emotions. One of the most vocal critics is Lisa Feldman Barrett. Her group at Northeastern University collectively analyzed brain imaging studies published from 1990 to 2011 and were unable to find a brain region that was dedicated to any single emotion. They also found that the typical

Polygraph tests, or lie detectors, and modern biofeedback equipment can measure physiological variables.



regions thought to regulate emotions were also involved in non-emotional functions. The jury is still out.

- Emotions exist for a reason. They either push toward action or pull you away from danger. They provide critical information necessary for decision making and can even actively alter our memories and how we learn.
- But the link between cognition and emotion is bidirectional. Physiological arousal is important, but how we explain our emotional arousal is perhaps even more important as we try to understand our experience of emotion and how it affects our health and relationships. If you are interested in changing your EQ, you must pay attention to both the body and cognition.
- We have a choice. We can't do anything about the brains we have in this moment nor change all the things that happened in the past, but from this point forward, we can use our minds to change our brains and emotions for the better.

## Suggested Reading

Damasio, *The Feeling of What Happens*.

Mayer, Roberts, and Barsade, "Human Abilities."

Mayer, Salovey, and Caruso, "Emotional Intelligence."

Mayer, Salovey, Caruso, and Cherkasskiy, "Emotional Intelligence."

Nowicki and Carton, "The Measurement of Emotional Intensity from Facial Expressions."

## Questions to Consider

1. Which comes first: the emotion or the physical sensation?  
Why does that matter?
2. How does knowing more about the neuroscience of emotion alter our understanding of EQ?



## Lecture 5

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# Emotional Impacts

This lecture is on the impacts of EQ, or the myriad ways in which EQ might affect our lives. The lecture will start with the most common example of professional success but move to social relationships, cognition and decision making, and ultimately to physical health.

## Mental Operations

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- Contemporary emotion theories emphasize the roles emotions play by preparing behavioral responses, directing attention, enhancing memory, influencing decisions, and shaping interpersonal interactions. To fully appreciate the roles that emotions play, we need to consider the different, interdependent categories of mental operations that might be in play at any given time.
- We typically think of 3 types of mental operations: motivation, cognition, and emotion. EQ cuts across all 3 of these categories of mental operations. EQ is the ability to perceive and express emotions, use emotions to facilitate thought, understand the meaning of emotions, and manage and regulate emotions in the self and others. This has big implications for motivation and cognition (how we think) and is directly related to our emotional experiences.
  - Emotions are a signal, a report that something has changed in our environment or in our relationships. Emotions help organize behavioral responses in pursuit of a goal. If your goal is safety and survival, then fear motivates you to flee or fight.
  - Motivation can be thought of on both basic and complex levels. On a basic level, motivation is a response to an internal biological state, such as hunger or thirst. You are motivated—driven, really—to eat or drink. As humans, though, we have much more complex and sometimes-contradictory goals that make motivation a bit trickier. You might like to lose 10 pounds, but you also like Southern comfort food and are more committed to your students and patients than you are to physical exercise. All are competing drives and goals to be sorted out in a highly subjective decision-making process.
  - Cognition helps us process information, learn from the environment, and solve problems.
- These 3 sets of mental operations interact to predict success in work, relationships, and physical and mental wellness.

## IQ versus EQ

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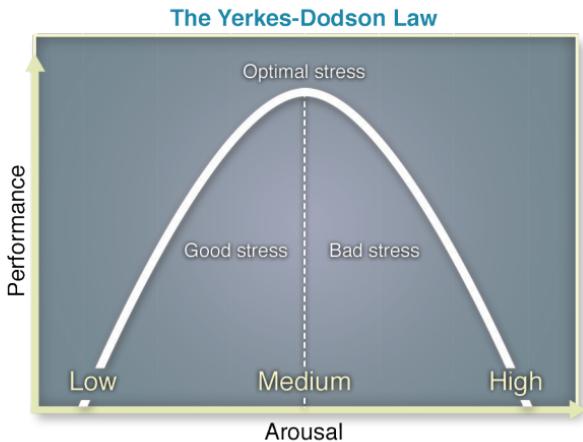
- David Wechsler—of the Wechsler Adult Intelligence Scale, the most common measure of IQ—tells us as early as 1940 that it isn't all about IQ or intellectual functioning. It is also about our ability to cope with our environments.
- A 2008 article in the *Annual Review of Psychology* by John D. Mayer, Richard Roberts, and Sigal Barsade provides a good summary of what research on EQ has shown thus far. EQ is positively correlated with work performance and better negotiations with others. EQ predicts good social relationships and is perceived as more pleasant, empathic, and socially adroit. People with high EQ have higher levels of subjective well-being.
- There is only a weak relationship with academic achievement once IQ is controlled. The strength of the relationships found, while significant, are not as robust as initially reported in the 1990s. But there are many variables we have to consider when trying to predict something as complex as success or health.
- A classic example of a study analyzing IQ and EQ is the bridge-Somerville Youth Study, which was a 40-year longitudinal study of 450 boys who grew up in Somerville, Massachusetts, done by George Valliant and John Snarey. Two-thirds of the boys were from welfare families, and one-third had IQs of below 90. However, IQ had little relationship to how well they did at work or in the rest of their lives. What made the biggest difference was childhood abilities, such as being able to manage frustration, control emotions, and get along with other people.
- Another good example is Feist and Barron's 1996 retrospective study of 80 Ph.D.s in science who underwent a battery of personality tests, IQ tests, and interviews in the 1950s when they were graduate students at the University of California, Berkeley. When they were in their early 70s, about 40 years later, they were tracked down and had their resumes evaluated by experts to determine their level of success. According to this

study, emotional abilities were 4 times more important than IQ in determining professional success and prestige.

## Attention

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- Emotion can strongly influence our cognitions and subsequent moods. Emotions may direct and control our attention and concentration, and they also influence how we might bias or distort our world or even how we make decisions or lay down new memories.
- There are just too many things in the world to pay attention to, particularly in this digital age, when we are almost never unplugged. We need—and have—a system that tells us what to pay attention to.
- All emotion is goal directed on some level. Sometimes those goals are quite complex and nuanced—to find a sense of meaning and interpersonal connection—or the goals can be quite basic—to experience pleasure or to avoid pain or injury. We have our reward and anxiety systems for just that purpose.
- In terms of attention and focus, a little anxiety is actually a good thing. It might even improve performance. The Yerkes-Dodson curve, which is an inverted U shape, reminds us that there is an optimal amount of fear that enhances performance. Too little fear and you just don't care. Too much and you are distracted. Just enough and you perform well.
- If you apply this idea to the circumplex model of emotions, with its 2 axes for positive and negative emotions and hi/low arousal, then the medium arousal regions are probably optimal for attention and focus. If things are too hot, you lose ability. If they are too cold, you just don't have any motivation.



- On a most basic level, emotion impacts thinking by directing attention, and by doing so it will alter how we process information—how we think.

## Decision Making

- The study of decision making has traditionally been dominated by economists who study a species called *Homo economicus*, entirely imaginary humans who only make rational decisions. Fortunately, we are now seeing more collaborative work between psychology and economics.
- Two well-known psychologists, Daniel Kahneman and Amos Tversky, are considered the fathers of what has now become known as behavioral economics, which melds psychology and economics. Their work has been so influential that Kahneman won a Nobel Prize in Economics in 2002.
- Kahneman and Tversky are best known for what is called dual-system theory, which posits a theoretical framework to explain why our judgements and decisions are so often irrational. In this

dual model, there are 2 parallel processing systems: system 1 and system 2.

- System 1 consists of intuitive, automatic, rapid, and mostly unconscious thinking. These are the blink judgments, the implicit biases, the gut feelings (which are also cognitions). System 2 is reflective, controlled, deliberative, and analytical.
- Because system 1 is so quick, it doesn't take a lot of energy. System 2 is slow and hogs processing energy and attention. We get in trouble when we over-rely on system 1 in situations where more deliberative thinking is needed. That's not to say that system 1 is bad, because it isn't.
- If you're doing rote tasks, such as driving home from work, you really don't need to take out a map and carefully plan out your route. If you see another driver driving erratically, you don't want to construct hypotheses about why and create a menu of options you might try to avoid an accident. You rely on quick judgment and instinctively take evasive action.
- But think about a conflict with a loved one or meeting a new boss who makes an unusual request of you. Or maybe you're in the health-care field and someone presents with some unusual symptoms but no diagnosis. You want to slow down and bring rationality forward. In terms of EQ, this often requires us to regulate our emotions so that we can get to more system-2 thinking.
- Heuristics are thinking shortcuts from system 1. In general, people are less likely to take risks if their options are framed as gains. It's irrational, but it's how our brains work, and it's just one of many heuristics. In general, unpleasant emotions are associated with lower confidence and risk aversion, and positive emotions are associated with more confidence, more optimistic framing, and more positive expectancies for outcomes.
- Different emotions affect information processing in different ways. Research has shown that if you are slightly sad, you are



better at analyzing and editing a written document. If you are slightly angry, you are better at discriminating between weak and strong arguments. Note that there seems to be an optimal level of emotional arousal that helps performance.

- If an emotion becomes too strong, we're prone to more distortions and more tunnel vision—something the Stoics knew long ago. It's safe to say that emotions and cognitions are deeply intertwined, and we will always be prone to cognitive shortcuts, or heuristics. Figuring out what shortcuts tend to be our favorites and how they affect us and those around us is really the stuff of cognitive behavioral therapy.

## Suggested Reading

Feist and Barron, "Emotional Intelligence and Academic Intelligence in Career and Life Success."

Goleman, *Emotional Intelligence*.

Kahneman, *Thinking, Fast and Slow*.

Martins, Ramalho, and Morin, "A Comprehensive Meta-Analysis of the Relationship between emotional Intelligence and Health."

Mayer, Roberts, and Barsade, "Human Abilities."

Mayer, Salovey, and Caruso, "Emotional Intelligence."

Mayer, Salovey, Caruso, and Cherkasskiy, "Emotional Intelligence."

Mehling, Price, Daubenmier, Acree, Bartmess, and Stewart, "The Multidimensional Assessment of Interoceptive Awareness (MAIA)."

Schutte, Malouff, Thorsteinsson, Bhullar, and Rooke, "A Meta-Analytic Investigation of the Relationship between Emotional Intelligence and Health."

## Questions to Consider

1. If IQ only accounts for 10% to 20% of success and EQ only accounts for 10%, what predicts the other 70%? It seems like a rather large piece of the puzzle is missing. How would you go about finding that piece?
2. In this lecture, you learned about cognitive heuristics and framing effects: how framing things as a loss will make people more comfortable to take risks. How do framing effects enter into medical care? Consider the example of a cardiologist or an oncologist who is presenting you with treatment options. Does he or she frame your odds as a gain (survival) or loss (death/disability)? How would this affect your decision making?



## Lecture 6

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# Perceiving and Expressing Emotions

This lecture focuses on the perception and expression of emotion. It will cover all of the primary emotions and will include perception and expression of emotions in both the self and others. Although perception and expression are complex and rich concepts on their own, they are intimately tied together. In fact, it's difficult to talk about one without invoking the other.

## Communicating Emotions

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- Although some forms of emotional expression are innate—such as when babies cry or smile or laugh—we learn more complex expressions of emotions as we grow older, often from social rules and customs. In part, we learn these rules from observing or perceiving others, hence our perceptions and our abilities to express become intimately connected. In fact, some emotion researchers have even joked that if an emotion is expressed and no one is around to perceive it, did it really happen?
- Albert Mehrabian, an emeritus professor at the University of California, Los Angeles, is best known for his research in nonverbal communication and whether we like someone. His work is often called the 7%-38%-55% rule of personal communication, referring to 7% of meaning coming from words, 38% from tone of voice, and 55% from nonverbal, such as posture and facial expressions.
- His work is often misquoted as applying to communication in general when he was really only interested in what types of communication predict whether we will like someone. In that case, those percentages hold true if and only if they are all congruent with one another.
- For example, you can't tell someone you like him or her in a sarcastic tone while rolling your eyes and smirking—not if you want that person to like you back. Nonetheless, Mehrabian's work does help us think about channels of interpersonal communication and the necessity to consider all of them.
- In face-to-face encounters, language, sound, facial expressions, and other nonverbal cues all occur simultaneously. That's why it's more difficult to misunderstand someone if you are having a face-to-face conversation. But life is busy, and we are often left dealing with limited information.

## Facial Expressions

- Paul Ekman identified a set of 6 universal emotions. He did so by showing photographs of facial expressions to cultures around the world and found that we have a core set of 6: happiness, anger, sadness, disgust, fear, and surprise.
- What makes a happy facial expression happy? The zygomatic major muscles pull the corners of the mouth upward into a smile. But what really is the giveaway is the tightening of the muscles at the corners of the eyes, the orbicularis oculi muscles, that gives you the classic crow's-feet and causes a pouching of the lower eyelids. If you see both—the smile and the crinkled eyes—you have accurately perceived happiness.



- If you are interested in a similar breakdown for all 6 universal emotions, check out the Greater Good website. Among many other things, it hosts a free facial-recognition test with detailed explanations. You can find it at [http://greatergood.berkeley.edu/ei\\_quiz/](http://greatergood.berkeley.edu/ei_quiz/).
- Facial expressions are quite rich and complex, but they are only one type of nonverbal emotional communication. Other forms include body posture, eye contact, and body movement (such as gesticulating).

## Auditory Information

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- There's also nonlinguistic auditory information, such as tone of voice or pitch. To demonstrate the power of nonverbal cues, try a blank-wall exercise. For this exercise, you need a partner. One of you will talk for 2 minutes about something you did recently. The other will be a blank wall—with no reaction or nodding, but eye contact is okay. What do you think happens?
- There's also an important category of auditory but nonlinguistic information: tone of voice, pitch, and rate of speech. These elements can often enrich what we derive from language and can help us clear up ambiguous information.
- Prosody, or the musicality of language, is quite complex. Some of its emotional effects are universal—sobbing words sound sad regardless of the language—but some of the effects are learned. We become familiar with how to use volume, rate, and pacing to express the emotion we wish to convey. We need an accurate communication sender as well as a perceiver.

## Perception

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- It is difficult to pull apart emotion expression and emotion perceptions. One sort of blurs into the other. Perception is heavily

influenced by expression but is often distorted, filtered, or even entirely changed.

- Sounds that express emotion, such as laughter, crying, and language, are only valuable if they can be accurately perceived. So, how does our emotional perceptual apparatus work?
- If you are like most people, music evokes some emotion—probably not to an intense degree unless you have a personal association with the particular music being played, but some emotion nonetheless.
- Composers have an intent to express a feeling through sound, and we receive their message—one that is beautiful and relaxing, perhaps, or powerful, bombastic, and loud. Music—or a ballet, movie, or work of art—moves us to another place due to the artists' ability to express emotion and our ability to perceive emotion.
- But not all people have the exact same reaction to the same music. Your perception is altered by who you are, what you are doing, or other contextual factors.
- We know that we actively and subjectively construct our realities, including distorting our senses. For example, if you are depressed, your house will look dirtier than if you are happy. If you are carrying a backpack while hiking, landmarks look farther away. If you have just worked out, that hill in front of you looks much steeper than usual. This is just the way our predictably irrational mind works.
- The same holds true for our perceptions of emotions. Our perceptions are certainly influenced by who we are. From an EQ perspective, we want to become more conscious of how we might be altering our perceptual reality. Do you see rejection in every social encounter? Do we see danger around every corner? Do we see a winning number each time we buy a lottery ticket? The goal isn't to be perfectly rational all the time.



Music moves us to another place due to the artists' ability to express emotion and our ability to perceive emotion.

- The goal is really up to you. When thinking about emotional adjustments to reach your goals, think of the analogy of adjusting the color knobs on a television. You might decide that there are too many red or brown or blue shades, so you tweak the settings to bring better clarity. How can you go about adjusting those knobs when it comes to emotions?
- A DVD program developed by Paul Ekman gives us one interesting and evidence-based example. The program is called the Micro Expressions Training Tool, and it is designed to help people pick up on very subtle emotional cues. You start by sitting in front of a computer screen, watching a face. An expression quickly appears on the face and then disappears. You have to rate what you just saw and interpret what it meant.
- The program systematically teaches you what to look for and what micro-expressions may mean. Initial research findings have shown that the program works, but data on clinical significance are limited.

- If you are interested in a more general measure of your abilities to perceive and understand nonverbal emotional cues, the DANVA2, developed by Stephen Nowicki at Emory University, is the most commonly used. It is a computer test that presents faces, postures, and audio clips and then asks you about what you perceive. The DANVA has been linked to a number of social and business outcomes and seems to rest squarely within most of the EQ frameworks that have been addressed in this course.

## Self-Perception

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- You've learned about emotional expression and perception, but mostly within an interpersonal context. What emotion are you expressing to someone else? What emotion are you perceiving from someone else? This branch of EQ also includes self-perception. How good are you at detecting your own emotional states?
- If you are interested in your own level of emotional awareness, you can try the lack of emotional awareness subscale that is part of the larger Difficulties in Emotion Regulation Scale (DERS). The subscale focuses on self-perceived emotional awareness, with higher scores indicating greater problems with awareness. Both the subscale and full DERS scale are available online.
- Our culture very much influences how we express and perceive emotion. According to Paul Ekman and Wallace Friesen, cultures give us something called display rules, the cultural norms that dictate the management and modification of emotional displays depending on social circumstances.
- A classic example is the emotional rule book given to men and women in our society. Men aren't supposed to be vulnerable. Only certain emotions are okay to express, and that will depend on context. Consider sporting events, such as the Super Bowl and the World Cup. When else are men allowed to hug and cry?

- It's about cultural display rules. When you can't display an emotion you are feeling, you have to suppress it, and that comes with a cost. In European American samples, suppression is associated with increases in physiological arousal and with negative effects on memory and social relationships. Long-term suppression is associated with depressive symptoms and low life satisfaction.

## Suggested Reading

Ekman, *Emotions Revealed*.

Ekman and Yamey, "Emotions Revealed."

Greater Good, [http://greatergood.berkeley.edu/ei\\_quiz/](http://greatergood.berkeley.edu/ei_quiz/).

## Questions to Consider

1. What is your tell—the subtle signal that gives away an emotion that you might be trying to hide? How do you know? If you wanted to get better at hiding emotions, how might you do it?
2. How are paintings or music or other works of art able to convey emotional content? Is your emotional reaction mostly about you, or is it something inherent in the art?



## Lecture 7

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# Understanding Emotions

This lecture will explore the branch of EQ called understanding emotions. The subject matter will include both positive and negative emotions, as both are necessary and important. In this lecture, you will also take a deeper look at the basic palette of human emotions and why we have them.

## Why We Have Emotions

- Emotions serve as a sort of compass that tells us where to go. If you feel sad, the emotion is telling you that you need to make a left turn. If you're happy, it tells you to keep going straight ahead. Our emotions are fleeting because a compass that stays stuck on due north would be useless.
- Our emotions are always giving us updates. We do self-monitoring exercises to gather data on ourselves but also to train ourselves to be more aware of shifts in our emotional states when they occur. A shift doesn't necessarily require any response, but the awareness gives you a choice of what to do next.
- Each of the emotions that Paul Ekman calls the primary emotions—happiness, surprise, sadness, anger, disgust, and fear—is found across cultures, across languages, and across all levels of income and education. All except surprise are represented in the *Atlas of Emotions*, found at [atlasofemotions.org](http://atlasofemotions.org).
- This atlas, created by Paul Ekman and his daughter Eve, is a visual tool to build your emotion vocabulary. The goal is to increase choice in what we become emotional about and how we respond. The atlas was commissioned by the Dalai Lama to create a scientifically based road map to emotional self-awareness.
- Each universal emotion is explored with regard to specific emotional states, action, triggers, and moods—the longer-lasting cousins to emotions.

### Exercise: Emotional Mapping

*Log into the *Atlas of Emotions*, pull out your notes from this course, and watch a movie—really any movie. Pick a scene and begin to emotionally map it. It will help you become more familiar with the language and with emotional perception and understanding. It is even more helpful if you watch the scene with a friend and have him or her independently do the same exercise and then compare and discuss notes later.*

- Fear is adaptive. It helps us anticipate threats to our safety and mobilize resources to keep ourselves safe. Fear states, ranging from least to most intense, include trepidation, nervousness, dread, panic, and horror. Fear actions include avoiding, freezing, screaming, worrying, and withdrawing. Fear triggers include snakelike shapes, thunder, growling, loss of a job, and public speaking. Fear moods include being apprehensive and hypervigilant.
- For anger, the states, again ranging from least to most intense, include annoyance, frustration, argumentativeness, bitterness, vengeful, and fury. Anger actions include disputing, being passive aggressive, insulting, quarreling, brooding, yelling, and hitting. Anger triggers include interference, rejection, bureaucracy, wrongful accusation, and being insulted. Anger moods include feeling irritable.
- For sadness, the states, once again ranging from least to most intense, include disappointment, discouragement, resignation, hopelessness, despair, grief, sorrow, and anguish. Sadness actions include mourning, withdrawing, protesting, seeking comfort, and ruminating. Sadness triggers include rejection, loss of status, and loss of an object or a person. Sadness moods include dysphoria and feeling blue.
- The atlas gives us a nice map, but it doesn't tell us much about emotion dynamics. The cognitive behavioral therapy triangle helps us better understand the interrelationships between emotions, thoughts, and behaviors. If we want to understand emotions—and eventually change them—we need to understand the thoughts and behaviors behind them. Each emotion, positive or negative, has a function.
- The cognitive themes for some of these emotions are as follows:
  - Anger often includes thoughts about a perceived violation, injustice, or frustration of a wish or desire.



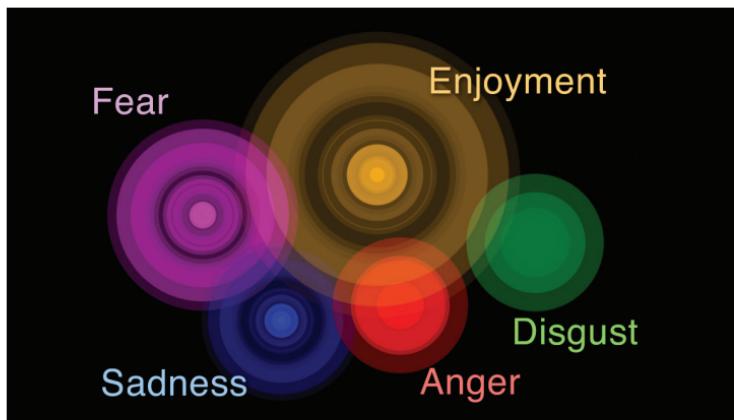
Anger often includes thoughts about a perceived violation, injustice, or frustration of a wish or desire.

- Happiness usually involves the perception or expectation of a gain.
- Anxiety or fear involves the perception of a threat or danger or difficulty with coping.
- Sadness includes the perception that something of value has been or will be lost.

● Knowing these themes or meanings may help us use emotional information, but there are a number of steps we need to take.

- We need to be able to perceive and correctly identify the emotion. This might include physical, cognitive, or behavioral cues.
- We need to know the trigger for that emotion. Was it internal or external? Was it real or imagined? Was it in the present or in memory?
- Once you've identified the emotion and its trigger, you've reached the interpretive step, and understanding the themes associated with emotions might help you understand just what's going on.

- Emotions are complex and vary greatly across people, so it behooves each of us to develop a deep understanding of our emotional instrument. Are you easily angered? Are you typically anxious? Do you savor positive emotions? Do you ruminate about bad ones?
- Anxiety and fear are adaptive, functional features within the human emotional repertoire that only sometimes misfire and cause impairment. Fear and anxiety are psychological and physiological responses to danger. Anxiety is a diffuse, unpleasant, vague sense of apprehension. It is influenced by culture, cognition, personality, and a number of other internal factors. Anxiety can trigger fear, and fear can result in lingering anxiety. When they are excessive—when they do misfire—they can cause a great deal of pain and suffering.
- In Ekman's atlas, there are 5 emotions: 4 negative, 1 positive (enjoyment). There's been a bit of debate about whether surprise belongs, and most recently it has been folded into fear because the facial expressions can be so similar. This 4-to-1 ratio of negative to positive might in part explain why so much research and so many resources are devoted to the negative emotions.



Ekman's Atlas

- But we do have happiness, or enjoyment. Enjoyment states include sensory pleasure, amusement, relief, wonder, excitement, and ecstasy. Enjoyment actions include exclaiming, engaging, indulging, and savoring. Enjoyment triggers include interactions with others, good food, playing a game, and sensory experiences. Enjoyment moods include being elated. There are some interesting blends within this category, such as schadenfreude, which is the enjoyment of the misfortunes of another person, usually a rival.

## Insights from Positive Psychology

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- Fortunately, researchers are now turning their attention to the full range of positive emotions. The field of positive psychology includes the study of such phenomena as creativity, enthusiasm, wisdom, and insight. Positive psychology looks at how we create states such as enjoyment, well-being, or life satisfaction.
- Some initial findings for happiness include that 1/3 of Americans describe themselves as happy. Happiness is not predicted by income, age, or gender. Happiness correlates with extroversion and spirituality. Relationships and friendships are key. In general, people are happiest in their 20s and in their 60s.
- Income and happiness are related up to a point, because we need food, shelter, and clothing, but it simply doesn't matter after that. In fact, in the United States, the amount we need is set at between \$50,000 and \$70,000, depending on where a particular family happens to live.
- Why does the money matter more? It comes down to 2 different processes. One is called hedonic adaptation, which means that we simply get used to what we have and stop deriving pleasure from it. The second phenomenon is upward social comparison: No matter how well you're doing, there's always someone who has a slightly bigger house, so it's difficult for money to have a lasting impact on happiness.

## Emotion Regulation Therapy

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- A new type of psychotherapy called emotion regulation therapy, developed by Douglas Mennin and David Fresco, rests in affective science, or more specifically, normative and disordered emotional processing and learning. It looks at 3 important areas: motivational mechanisms, emotion regulatory mechanisms, and contextual learning consequences.
- For motivation, we want to maximize reward while minimizing losses, seeking safety, and avoiding threats. We have built-in reward and security systems that help us do that.
- For regulation, we have multiple pathways to help us. We have hardwired pathways that take us from the limbic system to the prefrontal cortex, and we also have the top-down system, which runs from the prefrontal cortex down to the limbic system. Individuals with distress disorders have a more difficult time regulating their emotion.
- For contextual learning—which can also be thought of as adaptation as we move through life—we need to be aware of cues and contingencies so that we can adapt and learn from our environment. This could mean the difference between life and death or love and loss. We need to learn important queues for safety and for threats.
- For distress disorders, depressive people are less responsive to future opportunities for rewards. They're bad at predicting the size or intensity of reward. Their rumination narrows associative processing and impairs their learning.
- For people with anxiety, they're worse at stimulus discrimination and generalize more broadly. They're hypervigilant and tend to be overreactive in their emotional responses.

## Suggested Reading

Ekman and Ekman, *Atlas of Emotions*, <http://atlasofemotions.org>.

Stanford Psychophysiology Laboratory, <https://spl.stanford.edu/resources>.

## Questions to Consider

1. Thinking about the cognitive theme behind each universal emotion is a good starting point, but as we know, emotions are much more complex and nuanced. What would be the purpose of emotions such as nostalgia, schadenfreude, and giddiness? Would each of these fall into an emotional family, and does that help us understand it?
2. As both Maria and Carol demonstrate, our relationships with our emotions evolve over time. We accept losses. We face our fears. What is the driving force behind that evolution? What is it that makes some of us get so stuck sometimes?



## Lecture 8

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# Managing Your Emotions

This lecture is on the management of emotions in the self. This is the first of 2 lectures on emotion management, or regulation. The lecture will start with a quick review of the primary model of EQ and the modal model of emotion. From there, the lecture will focus on emotion regulation and specifically on how we regulate emotions in ourselves.

## Emotion Regulation

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- The primary model of EQ we've been using is the Salovey, Mayer, and Caruso integrative ability model, also called the 4-branch model. The original 4 branches are the ability to perceive emotion (self and others), use emotion (harness for cognitive tasks), understand and reason with emotion, and regulate emotion in the self and others. The psychometric data for the second branch, the use of emotions, is weaker and often gets folded into understanding and regulation.
- In the modal model of emotions, we move from situation, to attention, to appraisal, and end with the emotion response. The response may then feed back to alter the situation. It is at some point along this pathway that we need to insert an emotion regulation strategy.
- According to James Gross, emotion regulation is conceptualized as the process of “shaping which emotions one has, when one has them, and how one experiences or expresses these emotions.” Emotion regulation can be automatic or effortful.
- Automatic emotion regulation can be thought of as a sort of innate psychological immune system. An unwanted intruder—a negative emotion—has entered the picture and needs to be neutralized before the infection can spread. Emotion regulation can be directed at the self or at others.
- Emotion regulation is usually prohedonic, meaning to optimize well-being, but it can sometimes be contrahedonic, where we dwell on or intensify negative emotions. Think about the times you might have knowingly watched a sad movie, ridden a roller coaster, or wallowed a bit in your old diaries.
- Regulation can occur on a number of levels, including neurotransmitters (perhaps you take an antidepressant) and using meditation to strengthen your prefrontal cortex. Regulation can also occur on cognitive, behavioral, or social levels.

● Emotion regulation has 3 core features: the activation of a regulatory goal, the engagement of regulatory processes, and the modulation of the emotion trajectory.

- The activation of a regulatory goal involves who or what the target of the regulation is. Is it internal, or intrinsic, or is it external? Is my goal to regulate myself or to regulate you?
- The engagement of a regulatory strategy includes the full range of interventions we might try to accomplish our goal. These interventions might be explicit and conscious—you try to keep a poker face—or they might be automatic and unconscious—your mind immediately zones out when something potentially upsetting gets brought up.
- The modulation of the emotion trajectory refers to the impact of your selected strategy on emotion dynamics, or the latency, rise time, magnitude, and duration of the emotional response.

● So, emotion regulation has 3 key features: the target of the goal (self or others), the selected strategy, and the effect of the strategy. When thinking about EQ, and particularly the fourth branch, the regulation of emotion, you'll want to think about each of these.

● Next, we want to be able to place our emotion regulatory strategies on the continuum provided by the modal model of emotions, in which the path is situation followed by attention, cognition, and response. We can flesh out the model just a bit more so that we can place nearly all emotion regulatory strategies on it.

- Situation becomes **situation selection**. A very basic way to manage an emotion is not to put yourself in a situation where it might get evoked.
- Next is **situation modification**. You might not be able to avoid the situation, but you can change it so that it changes your mood. If you go to a party, bring a good friend.
- About midway on the continuum is **attentional deployment**. We have to pay attention to something to be emotionally activated. One common mood-management strategy is distraction. We

only have so much processing bandwidth, so if you distract yourself with something absorbing, it can be quite effective.

- Next is **cognitive change**, and this is where reappraisals and cognitive behavioral skills really reign supreme. Change the way you think about it and you'll change the way you feel. Ruminate about it and you'll extend the duration of the emotion.
- Last is the category of **response modulation**, where the emotion has already occurred and you are trying to either ramp it up or ramp it down. A common example is emotional suppression, in which you simply try to shove the feelings back down or put them on a shelf.

● You can divide these different stops on the continuum into 2 broad categories: antecedent focused (they occur before the emotion) or response focused where they occur after the emotion. In general, antecedent focused strategies are seen as more effective because they occur earlier and have a better chance of preventing the harmful effects of negative emotions.

## Emotion Regulation Strategies

- The first category of emotion regulation in the self is situation selection. This is defined by James Gross as “approaching or avoiding certain people, places, or objects in order to regulate emotions.” A person with social anxiety might use situation selection as an emotion regulation strategy.
- The next category of emotional regulation in the self is attentional deployment, or the channeling of attention in ways that are conducive to the desired emotional outcome. This is both an innate and a learned behavior. We automatically orient to loud noises or smile when we hear laughter. Our culture teaches us more nuanced rules.
- Parents use strategies to manage the attentional deployment of children. If your 5-year-old child is angry, what do you do? It depends on the context, but you might do something to distract



Parents use strategies to manage the attentional deployment of children. If your 5-year-old child is angry, what do you do?

him or her, such as ask a question, point to a cute dog, or read a story. The strategies of different cultures match their cultural values.

- For both children and adults, distraction is a common attentional deployment strategy. We can only process about 110 bytes of information per second. It takes 60 bytes to listen to one person talking. If you are trying to stop ruminative thoughts, a phone call to a friend takes up much more bandwidth than soothing music in the background.
- Start with the low-bandwidth distractors—such as pleasant music or a bubble bath—and if those don't work, increase the bandwidth demands. Pick something that engages all of your senses and challenges you to keep up.
- The “don't worry; be happy” strategy isn't particularly effective. A more effective strategy that is in the attentional deployment

category is to intentionally notice and list positive things around you or positive things that happened that day. It takes up bandwidth and also shifts perspective.

- A very rich and complex set of emotion regulation strategies for the self is cognitive modification. For cognitive modification, we will focus on the thoughts component of the cognitive behavioral therapy triangle (emotions and behaviors are the other 2 components). First, you have to be aware of your thoughts; the second step is to have the skills to modify them.
- Humans are predictably irrational, and we often have common habits of mind that cause our emotions to shift in unwanted or unhelpful ways.
- ABCD is an important cognitive-modification strategy that is a core skill in cognitive behavioral therapy. The A stands for activating event, which triggers B, the beliefs or cognitions, which triggers C, the consequences, which are your emotions and behaviors. Eventually, if you decide that those consequences are unwanted—they don't fit your goals—you would change your beliefs, or do a disputation, which is what D stands for. To do the exercise, divide a piece of paper into 4 quadrants, with each of the letters written in each of the quadrants.



- ABCD is an emotion regulation strategy that can help us make reappraisals about potentially stressful situations. That threat can be turned into an opportunity. That feared worst-case scenario can be replaced with something that's more likely to happen.
- Reappraisal happens early in the modal model emotional process, so it prevents emotions from occurring or downregulates early. This means less emotional experiencing and less potential damage.

- A common cognitive-processing strategy that many people use is keeping a diary or journal. But there's a way to do it that might maximize the benefit. Before the work of James Pennebaker, there was a raging debate about whether journaling was even a good idea. Was it positive processing or just rumination? It looks like it can probably be quite helpful, but we don't quite yet know all the ins and outs.
- In the typical Pennebaker experimental paradigm, he recruits a group of subjects and has half of them write an emotionally charged entry and half write about something boring or mundane. He then repeats this for a series of days and tracks mood, physical health, and so on.
- What does the research show in terms of the effectiveness or helpfulness of journaling? Pennebaker found that high-emotion journaling led to improved and increased lung function in asthma patients, less pain and swelling in the joints of patients with rheumatoid arthritis, and statistically significant increases in CD4 counts in HIV-positive patients (although no clinical differences). Journaling neither helped nor hurt bereaved subjects.
- The next category of emotion regulation strategies to explore is response modulation. This happens after the emotion has been generated. A common example is suppression, which carries important negative consequences. Other examples include somatic-quieting interventions, such as deep breathing or meditation—something to activate the parasympathetic nervous system and decrease arousal.
- A type of therapy called dialectical behavior therapy (DBT) was specifically created to help people with emotion dysregulation disorders. You can think of DBT as cognitive behavioral therapy mixed with Buddhist meditation and mindfulness. DBT has 4 main modules: mindfulness, interpersonal effectiveness, emotion regulation, and distress tolerance.



Somatic-quieting interventions, such as deep breathing, activate the parasympathetic nervous system and decrease arousal.

- One example of a DBT emotion-response modulation strategy is opposite action, which requires you to do the opposite of what an emotion is urging you to do. Although many think it is cathartic to act out, giving in to action urges makes the feeling more intense.
- Do the opposite of whatever your emotions are urging you to do. If you feel shyness, you lift your chin, make eye contact, stand tall, and speak loudly. If you feel anger, release muscle tension, round your shoulders, look downward, and slow your breathing.
- It takes practice and feels strange, but good evidence shows that it can help. Marsha Linehan, the founder of DBT and a patient herself, says that facial expression and body postures could influence our emotional experiences.

## Measuring Effectiveness

- At this point, you may be wondering how we go about studying the effectiveness of different emotion regulation strategies. We need to know what works so that we can know what to recommend or teach. There are self-report questionnaires, but there are also lab-based approaches.

- A commonly used self-report measure is the Difficulties in Emotion Regulation Scale (DERS). It was developed by Kim Gratz and Lizabeth Roemer in 2004 and includes 36 statements that you rate on a 1- to 5-point scale (“almost never” to “always”). It is to be used in people who have distress disorder or other psychopathology so that we can better understand the role of emotion regulation. It gives you 6 subscales, including lack of emotional awareness, lack of emotional clarity, and impulse control difficulties. The DERS correlates with depression, anxiety, suicidality, eating disorders, and alcohol and drug use.
- Another self-report measure is called the Emotion Regulation Questionnaire (ERQ), which has been used quite often in research and has been translated into 15 languages. It was developed by James Gross and Oliver John in 2003 and has 10 items looking at both positive and negative emotions, but it only includes cognitive reappraisal and expressive suppression as regulation strategies.

### Suggested Reading

Greenberger and Padesky, *Mind over Mood*.

Gross, ed., *Handbook of Emotion Regulation*.

Mennin, “Emotion Regulation Therapy.”

### Questions to Consider

1. What are your go-to emotion regulation strategies, and where do they fall on the modal model of emotion continuum? How effective are they?
2. Are there any disadvantages to being good at emotion regulation? Can you be overregulated, and what are the consequences? What can you do about it?



## Lecture 9

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# Managing Others' Emotions

This is the second lecture on emotion regulation. This lecture will focus on emotion regulation in others. The 3 core elements of EQ are the perception and expression of emotion, the understanding of emotion, and the management in the self and others. In this lecture, you will build on some of the self-management strategies described in the last lecture and apply them to the management of emotions in others.

## Management of Emotions in Others

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- When addressing the management of emotions in others, it includes the full range of emotions, and it might include moving arousal up or down, shifting valence from positive to negative, or altering the duration of the emotional response. And although the term “management” might sound somewhat cold and calculating, it can and often does include warmth, empathy, and kindness.
- Most Western, industrialized societies value individualism. You pick yourself up by your bootstraps. A pioneer is supposed to be strong and not burden others. In more collective cultures, such as Japan or China, all people are seen as interdependent. Your problem—or your mood—affect other people and is a shared responsibility.
- When we talk about managing moods in others, it isn’t to say that you are responsible for others (although you certainly are responsible for your children), it is really just to acknowledge that we live in a social world and often have to interact with others both at work and at home. We need a skill set to help us deal with the emotions that inevitably come up. You can still be an individualist or a collectivist, but you’ll need a skill set nonetheless.
- We should also consider contextual learning. One of the important features of emotions is that they help us learn from a situation. If you are constantly stepping in to soothe other people’s emotions, you may be limiting their opportunities to learn or reinforcing their insecurities. For example, if you always come to the rescue of anxious people, you may teach them that they are vulnerable and weak on their own.
- According to James Gross, emotion regulation is conceptualized as the process of “shaping which emotions one has, when one has them, and how one experiences or expresses these emotions.” This is also true for emotions in others.
- Emotion regulation has 3 key features: the target of the goal (self or others), the selected strategy, and the effect of the strategy.

When thinking about EQ—and particularly the fourth branch, the regulation of emotion—you'll want to think about each of these.

- We are using the modal model of emotions to help us categorize our emotion regulation strategies, starting with situations and moving to attention, then cognition, and finally emotion responses.
- Strategies in the category of situation selection when managing emotions in others might include scheduling time to talk, scheduling pleasant activities, or scheduling time to work on a project together. With children, we manage their situations—where they go and what they do—all the time. If needed, we can also do this to some extent with friends and family. For example, you know who you can and cannot invite to the same dinner party; you're managing the situation before an emotion occurs.
- Situation modification is similar to when we manage our own emotions. We might help others by making sure we only give them feedback in private or put down our cell phones when we see they are stressed and need us to listen. We change situational circumstances to send an important, emotion-regulating nonverbal signal.
- What about attentional deployment? If you know that your sister has had a bad event happen and is prone to rumination, you can serve as a high-bandwidth distraction: Take her out, call her, and



absorb her attention to take her mind elsewhere. Suggest activities that might not only distract her but will improve her mood.

- Cognitive strategies are usually directed inward, as you are really the only one with access to your own cognitions and appraisals. However, you can use those same cognitive behavioral skills to first manage your emotions so that you are in a better place to manage someone else who might be in a lot of distress. Once you have your equanimity, you are better able to help someone else.
- You can also use your cognitive skills to guide conversation—after you ask what would be most helpful. Sometimes people want input and guidance, but other times they just need someone to listen.
- Often, you can implicitly serve as a piece of counter-evidence. If your husband feels rejected and unloved, you prove otherwise when you accept him and love him. If your mother feels unheard and disrespected, you validate her when you listen and give her respect. It may be subtle and the person may not notice right away, but we all have the power to change hearts and minds simply by how we behave toward others.

## Universal Emotions and Strategies

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- Let's look at some of the specific universal emotions and strategies that we can use to better manage them in others. First, there are a few tips on how to get accurate information. It helps if you know what another person is feeling, why he or she is feeling it, and how intense those feelings are. It also helps if you know where you stand. Are you just a bystander or an ally, or are you seen as one of the bad guys? Your assigned identity may change the effectiveness of the strategy you choose.
- You look for all of the communication factors that were covered in lecture 6: language, tone of voice, posture, facial expressions, and any other nonverbal cues. You want to use what you learned



A hand on a shoulder  
is a strong nonverbal  
signal of connection  
and support.

in lecture 7, in which you learned about the cognitive theme of each universal emotion. This theme gives you a general idea of what the individual needs. Does he or she need to feel safe or need to feel respected? Does he or she need to mourn a loss?

- The family of sadness is triggered by the perception of real or symbolic loss. It ranges from mildly disappointed to grief to intense anguish. When looking at someone who is sad, you will see contraction of the procerus and corrugator muscles. You might see tears, a slumped posture, and psychomotor retardation (moving and talking slowly). There's often poor eye contact, and voice volume is low with poor tone.
- Key strategies to use with people who are sad include listening and empathy, but there are also subtle behaviors that can help, such as using a slightly higher volume than the sad speaker but not allowing your emotions to be too positive. You may be dismissed if you are too chirpy or out of touch.

- Establish and confirm your relationship with the sad person. Let the person know that you are there for him or her. Solicit his or her advice on what he or she needs. The sad people are the ones that have suffered the loss, and sometimes just having someone offer help is enough.
- If appropriate, use touch or physical affection. A hand on a shoulder is a strong nonverbal signal of connection and support. It clearly communicates to the other person that he or she is not alone. Move in closer, keep eye contact, be patient, and allow the other person time to be slow and sad. If a request is made, repeat it back to highlight that it has been heard.
- Anger is about a perceived violation or injustice—something that was rightly someone's has been taken away. Anger gives the angry person strength but can also drive others away.
- With anger, on the top of the list is managing your own emotions. It is instinctive to become defensive, anxious, or even angry in return. With anger, there is often a lot of collateral damage; you may receive angry barbs even if you weren't the cause of the injustice. It's not about you—you just happen to be there and got leaked on. The best way to manage anger is to go in with a cool head.
- How do you do that? You want to be proficient in somatic quieting, and you want to have a beefed-up prefrontal cortex that can silence your amygdala as it pushes you to get angry in return. Ideally, you will have put in some time to build your self-regulation skills so that you are less reactive.
- In a study of Buddhist monks by Richard Davidson at the University of Wisconsin, these master meditators were told that they would hear a loud sound and should try to suppress their response. They were much less reactive and reaction time was shorter when compared with non-meditators. They had trained their brains, their prefrontal cortices, to better control emotional responses, a skill especially important with anger.

- Because the theme of the feeling of anger is a violation of rights, it behooves you to express empathy, let the angry person know that he or she has been heard, and tell him or her that you respect their rights. Make sure that your body language isn't passive but also isn't dominant. Give the angry person plenty of personal space, keep your voice volume low and the rate slow, and give the person plenty of time to talk.
- Apologize for what has happened; don't necessarily take responsibility but express sympathy for whatever transpired. Be sure that your behaviors and language are soothing and de-escalating. Don't ask probing questions if you see that they escalate the experience of anger. Make sure that you emphasize that you share similar goals and are on the same side.
- Fear ranges from mild nervousness to outright terror and panic, so the strategies you choose depend on the intensity. Your initial strategy will be to assess the severity of the fear, understand the perceived threat, and know where you fall in the process. Are you a friend, foe, or somewhere in between?
- You again want to use voice volume and tone as a way to decrease arousal. You should maintain an open posture; keep your hands open and visible. Try offering reassurances, resources, and ways to neutralize or diminish the threat. To reduce stigma, share a fear you've had and role-model how you overcame it. Remind the person of a past brave thing he or she did to bolster his or her self-confidence.
- If appropriate, help the fearful person with some problem solving or maybe even some behavioral rehearsals or practice. Remember that ultimately, anxious people need to stop using avoidance and need to better develop their distress-tolerance skills.
- Although we've mostly focused on negative emotions, we should also consider the regulation of positive emotions in others. This refers not to reducing positive emotions but to supporting and enriching them, perhaps even escalating them.

- A common strategy is to promote savoring. Think of savoring as a positive form of rumination. Ask for details about what made the person happy—a lot of details—share his or her enthusiasm, and show your admiration. File the event away so that if you need to regulate a negative emotion in the person later, you can remind him or her of this event as a form of attentional deployment. Some people are just naturally good at this while others might need a bit of practice. Whatever you might fall into, you are already doing a lot of emotion regulation directed to others.

## Suggested Reading

Gross, ed., *Handbook of Emotion Regulation*.

Seligman, *Learned Optimism*.

## Questions to Consider

1. Why should we even consider managing someone else's emotions? Aren't their emotions their responsibility? What's the difference between managing and manipulating?
2. What professions would require you to be excellent at managing emotions in others? Are these people just naturals, or do they learn on the job? What lessons can we learn from them?



## Lecture 10

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# The Development of EQ

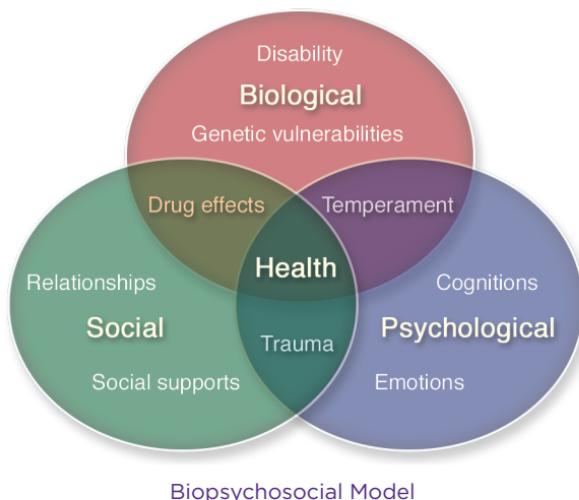
In this lecture, you will explore the development of EQ, mostly by analyzing children. It seems that there is a heritable component, as with IQ. Personality and temperament play a role and most likely are not changeable over time. However, half or more of the variance of EQ does not come from biology. Socially, our childhoods are critical windows for EQ development. Fortunately, there is hope even if that critical window wasn't so ideal.

## Adverse Childhood Experiences

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- Adverse childhood experiences (ACEs) is the term given to describe all types of abuse, neglect, and other traumatic experiences that occur to individuals under the age of 18. The landmark CDC-Kaiser ACE Study examined the relationships between these experiences during childhood and reduced health and well-being later in life.
- Between 1995 and 1997, more than 17,000 people receiving physical exams completed confidential surveys containing information about their childhood experiences and current health status and behaviors. Almost 2/3 of adults surveyed reported at least one adverse childhood experience, and the majority of respondents who reported at least one ACE reported more than one. And 12.5% of the sample reported 4 or more ACEs.
- The ACE study looked at 3 categories of adverse experience: childhood abuse, which included emotional, physical, and sexual abuse; neglect, including both physical and emotional neglect; and household challenges, which included growing up in a household where there was substance abuse, mental illness, violent treatment of a mother or stepmother, parental separation/divorce, or imprisonment of a member of the household.
- Respondents were given an ACE score between 0 and 10 based on how many of these 10 types of adverse experiences they reported being exposed to. The results were stunning. Once someone reported 4 or more ACEs, there were strong relationships with a long list of health problems as well as notable decrements in academic achievement, work performance, relationship satisfaction, divorce, violence, and a host of other social problems.
- This is more than just EQ, but it could be argued that one of the most insidious and long-lasting effects on these children was through impaired brain development, including the development of the limbic system, stress response systems, and executive functioning of the frontal lobes.

- Once wired to be hypersensitive, the stress response system doesn't really change. We can learn to compensate for it, but at least now, we really can't change it.
- As we consider EQ development, we use the biopsychosocial model, which reminds us to look at variables in the biological, psychological, and social domains and that these domains nearly always interact.
- We know that part of IQ is heritable, but it can also be greatly influenced by early childhood events and even nutrition. Studies estimate that about 50% of IQ is inherited.
- But with EQ, we run into a measurement problem because, unlike IQ, there isn't really a universally accepted definition. We can look at the heritability of things such as neuroticism or extroversion, both of which are included in some models of EQ. We can also look at the heritability of things such as anxiety disorder or depression, but at present, we can't say much about the heritability of EQ.



- There are interesting findings looking at how our inherited biology might make emotion management easier or more difficult. For example, about 20% of adult American have a genetic mutation that makes them inherently less anxious and more able to forget fearful and unpleasant experiences. While this isn't EQ per se, it influences emotional abilities.
- Another example of innate advantages or disadvantages comes from personality research. Personality is thought to be innate and genetically determined. Some models of EQ, such as the one from Rueven Bar-On, explicitly include personality and temperament.

## The Big Five

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- There has been a good bit of research linking EQ with 5 different personality characteristics called the big five. In 1961, 2 U.S. Air Force researchers, Ernest Tupes and Raymond Christal, analyzed personality data from 8 large samples. Using Raymond Cattell's trait measures, they found 5 recurring factors.
- This work was replicated by Warren Norman, who also found that 5 major factors were sufficient to account for a large set of personality data. Cattell viewed these developments as an attack and called it the 5-factor heresy. Nonetheless, 5 factors seemed to work best.
- But it was the 1960s, and behaviorism was on the rise. This was when John Watson famously claimed he could take any infant and turn him or her into any kind of person using classical and operant conditioning. Personality tests fell by the wayside.
- It wasn't until the early 1980s, when John Digman dusted off this research, that it began to move forward again. The big five are different personality types that are captured in the acronym of OCEAN, in which the O stands for openness to experience, the C stands for conscientiousness, the E stands for extroversion or

introversion, the A stands for agreeableness, and the N stands for neuroticism.

- The 5-factor model is accessed through 2 different questionnaires. The larger one is called the NEO Five-Factor Inventory. The shorter and more manageable one is called the Big Five Inventory, developed by Oliver John at the University of California, Berkeley. It has 44 items rated on a 1- to 5-point scale from “strongly agree” to “strongly disagree.”
- Heritability and environment contribute about equally. The results from twin studies tell us that the category of openness to experience has a heritability of about 57%, extroversion about 54%, conscientiousness about 49%, neuroticism about 48%, and agreeableness about 42%.
- The big five predict job performance, particularly in the realm of conscientiousness and neuroticism, with neuroticism negatively correlated with job performance. Interpersonal conflicts are predicted by low openness to experience, and again by neuroticism. Low agreeableness and low conscientiousness are correlated with juvenile delinquency.
- Conscientiousness predicts better medical adherence and better health. Neuroticism is linked with depression and anxiety, and both can contribute to cardiovascular and other diseases. Low agreeableness is related to anger and hostility, which is linked to cardiovascular disease.
- Temperament falls within the more general rubric of personality. Temperamental traits are a subset of personality traits. The bigger umbrella of personality includes cognitions, beliefs, attitudes, values, and morals, and temperament is just one thing that resides under that umbrella.
- Temperament refers to constitutionally based individual differences and reactivity in self-regulation in the domains of

affect, activity, and attention. It has historically been linked to the biology of the person. Reactivity, an important variable, is measured in terms of latency, or how long does it take to turn on; duration, or how long does it last; and intensity.

## Parenting and the Socialization of Children

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- How does our social world influence the development of EQ? From birth, parents soothe their children. They are practicing emotion regulation in others, but they are also role-modeling strategies on how to manage emotions. Parents also induce positive emotions often without thinking about it. Consider a game of peek-a-boo or tickling as a positive-mood-induction strategy.
- Parents take care of basic needs, establishing a routine, and allay fears. Parents use distraction, reframing “He’s just being silly” or “It’s just a game” as a way to externally help with reappraisals.
- Children begin to regulate emotions in the first 3 years of life. They find a favorite stuffed animal, pacifier, or blanket that they use to self-sooth and regulate their emotions. They like the repetitions of stories or Disney movies as a way to generate and experience and to learn from the same emotions over and over again. More sophisticated strategies emerge at ages 2 to 5.
- Their emotion control often starts by the internalization of parental rules. That’s a key part of their moral development. Toddlers may comply with a mother’s rules even when she’s not around to enforce them because they’ve internalized them. Toddlers can display empathy and sympathy. They will display distress if they see that another person is in pain, and they might even try to offer comfort. This is the beginning of management of emotions in others.
- Unfortunately, parents usually overestimate children’s abilities to self-regulate. Most parents think that children under 3 can manage frustration and competently share and take turns, but

Children begin to regulate emotions in the first 3 years of life. They find a favorite stuffed animal, pacifier, or blanket that they use to self-sooth and regulate their emotions.



much of our emotional regulation comes with the interplay between our limbic system and prefrontal cortex. Because our frontal lobes aren't fully developed until age 25, there's a lot of neural development that has to happen before those regulation skills are in place.

- The other common mistake that parents make is they rush in to emotionally rescue their children, according to psychologist Susan David, who authored the book *Emotional Agility*. Children need practice in navigating their emotional world. They need to have their feelings validated and supported, but before managing their moods for them, see what ideas they might have and how they self-regulate.

- To do an exercise that helps us think back to our emotional role models that we had while growing up, take out a piece of paper and draw a genogram, which is essentially a visual representation of your family tree. Usually, you start in the middle of the page by drawing a symbol to represent yourself. Your siblings are on a horizontal line with you, your parents are vertically above you, and grandparents are above them.
- Next, think about what emotion you want to follow. Are you interested in anger, fear, or grief? Think about a time when those emotions were expressed in your family. Who were the most influential people? What was the primary emotion that you associate with them? How did they express it? What did they mean?

## EQ in Older Adults

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- When it comes to EQ in older adults, we really aren't talking about development, but we do see some changes. Older adults are more likely to attend to positive stimuli and to use memories to regulate emotion. Savoring happens more often, as do positive reappraisals.
- In explaining this positivity effect, Laura Carstensen and Joseph Mikels invoke automatic regulatory processes. They argue that because deliberate processing deteriorates in older age, it is likely that automatic emotion regulatory processing is responsible for the positivity effect.
- Indeed, the positivity effect has been found in a number of laboratory mood-regulation tasks. Older adults seem more automatically drawn to positive stimuli, even when they aren't intending to do so. Perhaps this is wisdom, or maybe just a benefit of having an aging brain.

## Suggested Reading

ACEs Too High, "ACEs Science 101," <https://acestoohigh.com/aces-101/>.

Centers for Disease Control and Prevention, "Adverse Childhood Experiences (ACEs)," <http://www.cdc.gov/violenceprevention/acestudy/>.

Cohen, Doyle, Turner, Alper, and Skoner, "Childhood Socioeconomic Status and Host Resistance to Infectious Illness in Adulthood."

Felitti, Anda, Nordenberg, Williamson, Spitz, Edwards, Koss, and Marks, "Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults."

Shoda, Mischel, and Peake, "Predicting Adolescent Cognitive and Self-Regulatory Competencies from Preschool Delay of Gratification."

Snarey and Vaillant, "How Lower- and Working-Class Youth Become Middleclass Adults."

## Questions to Consider

1. If someone has experienced several adverse childhood events in early life, what can he or she do as an adult to compensate for the damage? How can friends, family, significant others, or even employers help?
2. Do some cultures have more emotionally intelligent child-rearing practices than others? Think of high- and low-EQ examples. Should EQ matter to all cultures, or are we just using our own biased lens?



## Lecture 11

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# Emotional Intelligence Training

**I**t is estimated that more than 30,000 schools across the United States have a social and emotional learning (SEL) curriculum, which is a direct outgrowth of EQ research that explicitly acknowledges the close relationship between emotions and learning. SEL programs are intended to improve both the noncognitive and cognitive skills of children. Noncognitive, or EQ, skills are explicitly taught and rehearsed while cognitive skills are thought to improve implicitly as children are better able to concentrate, focus, and process their regular academic school lessons. This lecture will dig into this important SEL issue as well as other EQ training programs.

## Social and Emotional Learning

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- Schools began emphasizing social and emotional learning around 2011, after an analysis of 213 school-based programs teaching such skills found that they improved academic achievement by 11 percentile points. A book extolling efforts to teach social and emotional skills in schools—such as the KIPP charter network at Riverdale Country School in New York—*How Children Succeed* by Paul Tough, appeared the next year.
- SEL coursework is now well on the way to universal adoption to at least some extent. Objections are usually of the following varieties: Some argue that SEL shouldn't be taking up curricular time because those skills are best learned in the real world—from parents, friends, and life events. Children live emotions all the time, so why do we need to artificially create them in school? This is similar to saying that we shouldn't have English class in school because most children speak English at home. There is an advantage to a structured, standardized curriculum that can raise skills.
- A second set of more compelling arguments comes from several EQ researchers. First, they say that there's no reliable standardized way to measure EQ in schools. We don't know where students are starting, and we don't have a good way of determining the effectiveness of the programs.
- Second, we don't have evidence on which strategies work, so if you are constructing a curriculum, how do you know what kinds of exercises or tools to put into that toolbox? There are very few randomized, controlled studies, so many are just observational findings. There seems to be a huge variability in the quality of the different SEL studies that are making an appearance in these 30,000 schools around the country.
- One such critic is a faculty member at the University of Pennsylvania, Angela Duckworth. In her work as a teacher, she noticed that there were certain students that were quite

successful even if they didn't fit the normal success profile. She found that those students had a lot of passion and perseverance, which she called grit, and she wrote a book entitled *Grit* and a TED Talk of the same name.

- Duckworth is a proponent of helping children build noncognitive skills, whereas EQ may be too big and too messy. She recommends the use of her 12-item Grit Scale and found that grit greatly outperforms IQ in its ability to predict academic success and achievement.
- This is exciting and important work, but it isn't an indictment of SEL programs—it is another type of SEL program. Grit is more parsimonious than EQ, and there is a lot of debate about what it really means. This bodes well for designing careful research studies. We don't quite yet know, though, how innate versus teachable grit might be. Any improvements in grit might require improvements in emotion regulation skills, bringing us back to EQ and SEL programs.



- In her book *Emotional Agility*, Susan David says, “emotional skills are the bedrock of qualities like grit and resilience.” But instead of allowing a child to fully experience a negative emotion, parents often respond with what David describes as emotional helicoptering.
- The biggest concern about testing for social and emotional skills is that it typically relies on surveys asking students to evaluate recent behaviors or mindsets, such as how many days they remembered their homework or if they consider themselves hard workers. This makes the testing highly susceptible to fakery and subjectivity.
- Duckworth further argues that even if students don’t fake their answers, the tests provide incentives for “superficial parroting” rather than real changes in emotional skills and behavior.

## SEL Programs

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- Even though SEL has the aspirational goal of improving emotional literacy, many school administrators aren’t that concerned about EQ, and the programs they adopt don’t necessarily grow from EQ models. Administrators may simply want fewer behavioral problems in school, better attendance, and better standardized test scores—because funding is often tied to these factors.
- Second Step, probably the most popular program, in about 25,000 schools, is heavily scripted with modules based on skills and school year. It’s developed by the nonprofit Committee for Children and it can be found at [www.cfchildren.org](http://www.cfchildren.org). It includes videos, games, vignettes, and even take-home exercises that help children build SEL skills. Because it is highly scripted, it is mostly one size fits all; it’s up to the skills of the teacher if adaptations need to be made.
- A contrasting example that is more rooted in cognitive behavioral skills comes from Karen Reivich, a psychologist at the University

of Pennsylvania. The positive psychology curriculum she codeveloped and leads teaches adolescents how to overcome negative events. While part of the program involves academics, much of it deals with cognitive behavioral techniques modified for the classroom.

- The ABC model (for the interplay between antecedents, beliefs, and consequences) aims to help students assess a problem and their role in it and gain control of their environment and emotions—keys to managing emotions and preventing depression. The model is detailed in *The Resilience Factor*, coauthored by Karen Reivich and Andrew Shatte, who tell us that there are 7 ingredients for resilience: emotion awareness and control, impulse control, realistic optimism, flexible thinking, self-efficacy, empathy, and reaching out.
- Marc Brackett, an EQ expert and SEL developer, is concerned that there are so many different programs out there. He has his own program, called RULER, created with David Caruso, one of the key authors of the integrative ability model for EQ.
- RULER is much more intensive, and it requires much more teacher training—weeks of intensive training. It's also much more expensive, about \$100,000 per school. However, this program is quite rigorous and demands high-quality teaching, implementation, and evaluation, unlike many of the other programs. Given the intensity and the cost, however, it probably won't be possible to scale up this program without losing its fidelity.
- A meta-analysis of 213 school-based SEL programs published in 2011 by Joseph Durlak and Roger Weissberg looked for outcomes in more than 270,000 students. Compared to controls, SEL students improved socially, emotionally, and academically, reflecting an 11% gain in achievement.
- A slightly different type of study done more recently by Christopher Houck and David Barker in 2016 looked at a more focused emotion regulation intervention for adolescents to

delay sexual activity. Their program was called Get Out, Let It Out, and Think It Out and was based on James Gross's modal model of emotion and his research on emotion regulation. They were looking at situation modification, attentional deployment, response modulation, and cognitive changes and found that with intervention, adolescents were less likely to have sex and to either engage in or suffer from violent behavior after 1 year.

- Susan David leaves us with some practical and helpful advice for parents, regardless of what may or may not be happening in their child's SEL program at school. She recommends the following:
  - **Feel it.** Many families focus on pushing away negative emotions. Parents often tell their children not to be sad, mad, angry, jealous, or selfish. Parents need to validate and see their child as a sentient person who has his or her own emotional world.
  - **Show it.** Many families have what are called display rules around emotions: There are emotions that are acceptable to show and those that must be hidden. When they are shown, they might



Parents often tell their children not to be sad, mad, angry, jealous, or selfish.

be highly regulated or reformed. This teaches children to be afraid of their emotions.

- › **Label it.** Labeling emotions is a critical skill set for children, who need to be able to recognize stress as compared to anger or disappointment. Even very young children can consider whether they're mad, sad, or glad.
- › **Watch it go.** Even the most intense emotions don't last forever. Parents should help their children see that sadness, anger, and frustration all have value, but they also pass. They're transient, and we are bigger than they are.

- Outside of schools, we have work programs, executive coaching, diversity training, managing conflict, responding to microaggressions, and building empathy.
- The capacity for empathy is considered a core skill that is necessary for EQ—particularly for accurately assessing and responding to the emotions of others. When someone is being emotionally unintelligent, it is often because he or she has failed to read the situation correctly or has forgotten the need to connect and relate.
- In EQ terms, there may be impairment in emotion perception, emotion understanding, and emotion regulation. But fortunately, empathy can be improved with training.

## Acceptance and Commitment Therapy

- A number of work training programs borrow from interventions first developed in clinical settings. Acceptance and commitment therapy (ACT) was developed by Steven Hayes at the University of Nevada, Reno, in the late 1980s.
- ACT differs from traditional cognitive behavioral therapy in that rather than trying to teach people to better control their thoughts, feelings, sensations, memories, and other private events, ACT teaches them to “just notice,” accept, and embrace their private events, especially previously unwanted ones.

- The core conception of ACT is that psychological suffering is caused by experiential avoidance, cognitive entanglement, and resulting psychological rigidity that leads to a failure to take needed behavioral steps in accord with core values.
- ACT says that all of our problems are due to **FEAR**:
  - **F**usion with your thoughts
  - **E**valuation of experience
  - **A**voidance of your experience
  - **R**eason-giving for your behavior
- The healthy alternative is to **ACT**:
  - **A**ccept your reactions and be present
  - **C**hOOSE a valued direction
  - **T**ake action
- ACT has 6 core principles for psychological flexibility.
  - Cognitive defusion: Learning methods to reduce the tendency to reify thoughts, images, emotions, and memories.
  - Acceptance: Allowing thoughts to come and go without struggling with them.
  - Contact with the present moment: Awareness of the here and now, experienced with openness, interest, and receptiveness.
  - Observing the self: Accessing a transcendent sense of self, a continuity of consciousness that is unchanging.
  - Values: Discovering what is most important to one's true self.
  - Committed action: Setting goals according to values and carrying them out responsibly.
- In a study published by Jessica Swain and colleagues in 2013, a systematic review of 38 different studies offered preliminary support for a broad spectrum of anxiety disorders when treated with ACT.

- Another study, published by Vivien Hunot and colleagues in 2013, was a Cochrane review but looked at the treatment of depression only. This included ACT with a few other therapies that looked at acceptance-based approaches, such as mindfulness. There were only 3 randomized, controlled trials for 144 subjects, but they found that ACT was equal to cognitive behavioral therapy in another treatment called behavioral activation.

## Suggested Reading

David, *Emotional Agility*.

Reivich and Shatte, *The Resilience Factor*.

Zeidner, Roberts, and Matthews, “Can Emotional Intelligence Be Schooled?”

———, “The Science of Emotional Intelligence.”

## Questions to Consider

1. We often hear that children in the United States are behind their peers in math or science skills. Are they also behind in emotional and social skills? How could we test that?
2. Should socioemotional learning programs be limited to a particular age range? If so, what is the range? Is it ever too late to learn the basics?



## Lecture 12

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# Social Intelligence

This lecture is on social intelligence (SI), which is a related concept to emotional intelligence, but it brings some important and interesting new facets. Social intelligence will also serve as another variable to consider when trying to predict why some people succeed while others fail. It has substantial overlap with EQ, and this lecture will explore the many similarities and differences.

## Social Intelligence

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- Social intelligence is the capacity to effectively negotiate complex social relationships and environments. Skills for interpersonal effectiveness might include listening mindfully, figuring out what you feel toward others and what you might want or need from them, being able to make assertive requests, navigating conflict, helping others feel comfortable, and having charisma or charm.
- Sociobiology is a field of scientific study that is based on the assumption that social behavior has resulted from evolution and attempts to explain and examine social behavior within that context. On the most basic level, it's all about mating, competing for resources, and fighting to survive and procreate. We're talking about the reptilian and mammalian brains, hierarchy, dominance and power, and mating displays.
- David Brooks, author of *The Social Animal*, and others remind us that although we are mammals, we have large frontal lobes. We have that most advanced part of our triune brain. We may still have the urge to beat our chests, but we can choose to do something different.
- Advances in neuroscience are helping us understand exactly how social connections occur. We seem to be innately wired to connect through a special type of cell called mirror neurons. When someone gives us a big grin, the impulse is to grin back. When you see someone in pain, you wince in sympathy. These are your mirror neurons in action.
- Another person's emotional state is creating a similar emotional state within your brain—hence the name mirror neurons. Mirror neurons help us predict the behavior of others near us by subconsciously mimicking their emotions and behaviors. This helps us feel as they feel and move as they move; there is an obvious survival advantage here.



When someone gives us a big grin, the impulse is to grin back. These are your mirror neurons in action.

- It's cliché to say that people need people, and this idea of love and attachment is the thing that music, art, literature, and movies are made of. But is it true? Can't being alone or even totally isolated be just fine?
- In studies of young orphans in eastern Europe, 40% of the isolated orphans die before the age of 2. They are given food and water, kept clean, and given medical care, but something happens. They seem to die of loneliness.
- You may be thinking that this might be true for infants, but they are vulnerable and that there's a critical window when we need a loving, nurturing relationship. But what about the 35,000 suicides per year involving many people who are socially isolated and depressed?
- In a study looking at myocardial infarction, or heart attack, published in the *Annals of Internal Medicine*, researchers looked at about 200 people who had recently had a heart attack, and no matter how they divided the patients—by age or gender, for example—social supports equaled a better chance at survival.

- Greater perceived support, especially perceived availability of emotional support, has also been found to predict lower mortality risk among women with breast cancer. During pregnancy, greater perceived and received social support are linked to fewer labor complications and better birth outcomes.
- There is solid support for the biological and medical consequences of having social relationships. We are still learning about all the biological pathways to cause a social phenomenon such as a relationship to be transduced into biology within your body—how the outside gets inside.

## EQ versus SI

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- Emotions are a highly evolved means of communicating changes in our environment, relationships, and interpersonal needs. So, by definition, they already have a strong social function. We certainly feel emotions when we are alone, but remember that all emotional experience is goal directed: It's about approach or escape avoidance.
- The processing or emoting we do on our own is probably related to social relationships, cultural rules, or challenges or threats we think that the social world will throw in our direction. We perceive emotions to gather data on what's going on. We use emotions to facilitate thought and cognition, understand emotions so that we can accurately read a situation, and regulate emotions in the self or others depending on their utility given our context.
- In the social realm, you add implicit rules we have internalized to guide social interactions (of course, these are highly influenced by culture), including how you greet someone, which fork you pick up for your salad, and what you say when you learn there's been a death in someone's family. We've learned hundreds or even thousands of rules.

- In a 2008 paper in the *American Psychologist*, John D. Mayer, Peter Salovey, and David Caruso summarized a number of studies that show that EQ predicts social outcomes and social well-being and more prosocial behaviors. Of the 4 arms of their model, emotion management seems to be the most socially powerful and important.
- Just as higher EQ predicts more favorable social outcomes, lower EQ is associated with interpersonal conflict and lower levels of well-being, according to Mayer and colleagues. For example, adolescents lower in EQ were rated as more aggressive than others and were observed to be more prone to engage in conflictual and antisocial behavior than their higher-EQ peers, according to studies by Brackett and colleagues in 2004 and Mayer and colleagues in 2001.

## Skills and Social Contingencies

- What are some of the skills and social contingencies, or learned rules, that govern our behavior? Daniel Goleman describes different features of SI that we should consider as we try to better understand this complex skill set.



- The first is called the protoconversation. As you start to have a social exchange, a great deal of activity is taking place. You are taking in microexpressions, body language, and pheromones and processing language. This category includes your social instincts—your gut feeling about another person. Can you sense the other person's feelings or intentions? It also includes awareness about yourself, such as how you come across to others and what messages you might unintentionally display.
- The next SI category is social triggers. Think about what threatens you. Is it a fear of rejection or of being wrong or alone? Our preexisting beliefs and worries—in part based on past life experiences—will very much color how we interact in social experiences.
- With anxiety, there is a high road and a low road. The low road represents lower-order brain functioning in the limbic system, such as the amygdala. It's quick, dirty, and inaccurate. The high road is more neocortex and, specifically, the frontal lobes. It is the careful and accurate but slow system.
- Daniel Kahneman and Amos Tversky call this system-1 and system-2 thinking. It is important in social situations because it drives our emotional reactions. Have you ever had an exchange where you felt irrationally angry at someone or where you left feeling energized and connected? If automatic, these are probably low-road influences. In reality, there's probably some high-road cognitions or interpretations of the social situation in there, too.
- As we grow older and more socially skilled, it is often our high road tamping down our low road. Maybe there were reasons to be afraid as a child, but those days are over. Your low road just has trouble changing or forgetting.
- If you've had a social interaction that didn't go well, it is important to have a place to process and learn from the experience. In the medical profession, this is called a postmortem. You want to know what went well and what didn't go well. What emotional

signals were sent or received? If you could rewind, how would you change it? What did you learn, and what might you do differently next time?

- If you'd like to work on your SI, create a template for a debrief after social encounters, collecting data and looking for patterns and opportunities.

## Cultivating and Assessing SI

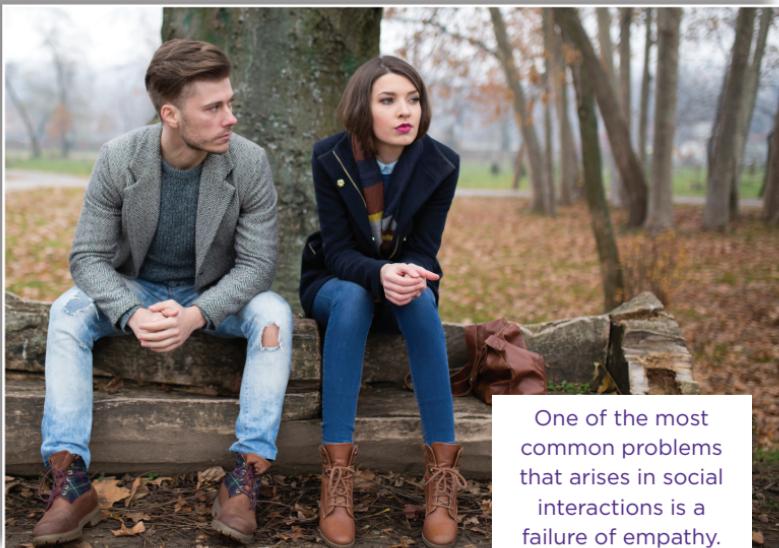
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- Can you cultivate social intelligence? Initial studies of children have been successful in teaching socioemotional skills, including listening, asserting oneself, cooperating, and apologizing. These can be taught on the playground or intentionally integrated into curricula. But what about at work or home? What about for adults with decades of social habits that may or may not be socially intelligent?
- The Social Intelligence Institute has one of the most popular and well-researched programs available. It can be found online at [www.socialintelligenceinstitute.org](http://www.socialintelligenceinstitute.org), which offers a self-administered, multimedia Internet course consisting of 10 hours of content. The modules include reading facial expressions, understanding your unconscious brain, and how to click with another person. Alex and Eva Zautra published a validation of the program in 2015 using a slightly different version and found positive results.
- Although there do seem to be some unique features of social intelligence as compared to emotional intelligence, there are surprisingly few specialized SI measures. The 2 most commonly used are the Emotional and Social Competence Inventory (ESCI) by Goleman and the EQ-i by Reuven Bar-On, both of which were described in lecture 2.
- There are specific measures for particular skills, such as communication. For measures of social skills—not quite the same

as SI—most of the measures are designed for school children. One of the most commonly used with the best psychometrics is the Home and Community Social Behavior Scales, which are completed by both parents and their children. Another commonly used method is direct observation.

## Problems in Social Situations

- One of the most common problems that arises in social situations and interactions is a failure of empathy, where we use other people as objects instead of people. It's called instrumentalizing. We see them as necessary for a function but forget that they're human beings.
- We might use other common habits of mind, such as mind reading, which involves imagining what the other person must be thinking. We might try fortune telling, or predicting the future, and adapt our behavior accordingly. There is also mood contagion, where you pick up the mood of the individuals around you.



One of the most common problems that arises in social interactions is a failure of empathy.

- We have implicit bias. As we're forming our identities, we decide to which groups we belong and to which groups we don't belong. For your in-group, you begin to distort membership in that group in a positive direction. For the out-group, you start to make negative assumptions about that group.
- We're also influenced daily by media messages that help shape our opinions about people—particularly people in the out-group. This gives rise to microaggressions, which are brief and commonplace daily verbal, behavioral, and environmental indignities and insults.
- Microaggressions communicate negative messages to target persons based solely on their group membership or identity. They typically occur as a result of unconscious or implicit bias. Although the intent may not be to insult, undermine, or discount, the impact is often negative. Even though you intend to have a particular consequence in a social situation, there may be unpredicted or unintended consequences or effects that you have on other people.
- An approach developed by the UCSF School of Nursing called HEALS—which stands for halt, engage, allow, learn, and synthesize—helps you respond to a microaggression or an unwanted or offensive comment that comes up.
  - **Halt the discussion.** Pause to consider the comment, image, or message that you received. You might ask the person to clarify to help you understand it. Express appreciation for raising the issue, providing an opportunity to discuss an important element or aspect of your relationship. Focus on the idea, deconstructing the comment without placing the individual on the defensive.
  - **Engage with the issue.** Who is or could be affected? Check your own response. Check the room: Look for body language and other reactions of the group members, and then go there and discuss the issue.

- **Allow.** Let people express their thoughts, beliefs, feelings, and experiences, appreciating that people may have very different points of view.
- **Learn.** Listen to one another. What can we learn from one another's experiences and observations?
- **Synthesize.** How does this relate to work equity, performance, or group relationships? How did this process of discussion work? Allow an opportunity to talk more later.

## Suggested Reading

Goleman, *Social Intelligence*.

Sue, *Microaggressions in Everyday Life*.

## Questions to Consider

1. How does the concept of social intelligence add to our understanding of EQ, IQ, and relationships? How is it similar or different?
2. How is social media influencing the development of social intelligence? There are rewards ("likes" and views) and punishments (being blocked or ridiculed). Isn't this just another form of social learning?



## Lecture 13

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# Intimacy and EQ

This lecture will provide a quick tour of attachment theory, intimacy, and EQ. In this lecture, you will explore basic attachment theory as it relates to EQ and intimacy. You will even look at an exercise that claims to make people fall in love with you.

## Attachment

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- John Bowlby developed and described attachment theory, which was later empirically supported and revised by Mary Ainsworth. The ability for an individual to form an emotional and physical attachment to another person gives a sense of stability and security necessary to take risks, branch out, and grow and develop as a personality. It is the child's first attachment to a caregiver, usually a parent who allows the child to develop strong relationships as an adult.
- We might hypothesize that parents with higher EQ might have more securely attached children because they would be better at perceiving a child's emotional state, validating that state, and effectively regulating the child's emotions, providing comfort when needed.
- The classic categories of attachment styles are secure, insecure anxious, insecure avoidant, and insecure disorganized. These names have varied slightly over time, but the categories have remained the same.
- The categories were determined from hundreds of studies of thousands of babies and toddlers in a test known as the Strange Situation Procedure, in which usually mother and child are together in a room being observed. The mother is told to leave the room and leave the toddler alone or sometimes with a stranger. The toddler's behavior is observed when the mother leaves, while the mother is gone, and when she returns.
- A securely attached toddler will explore freely while the caregiver is present, typically engages with strangers, may be visibly upset when the caregiver leaves, and is usually happy to see the caregiver return.
- Toddlers on the insecure-anxious—sometimes called the insecure-ambivalent—end of the spectrum are usually wary of strangers and will get upset when mothers leave. These toddlers run to their

Toddlers on the insecure-anxious end of the attachment spectrum will get upset when their mothers leave and run to their mothers when they return.



mothers when they return; however, these toddlers aren't easily soothed, usually because the caregiver has been an unreliable and unpredictable source of comfort in the past. The toddlers may have a tantrum as if they are angry. As adults, they tend to overthink their relationships and may be overly dramatic. They may hound romantic interests for reassurance instead of taking it slow.

- Insecure-avoidant children will avoid or ignore the caregiver. They won't register distress when their caregivers leave, and they don't show much interest when caregivers return. These toddlers have become used to being either ignored or smothered based on the parent's needs and not their own. Insecure-avoidant adults tend to have trouble with intimacy. They may value and want relationships but are more likely to leave relationships, particularly if they are going well. They tend to be bad at communicating their feelings and may avoid attempts from others to bond.

- The insecure-disorganized category is really just a mix of the prior 2 insecurely attached categories, primarily because the toddler's behavior varied too much. Nonetheless, they may also have difficulties with relationships as adults.
- A meta-analysis indicates that about 30% of toddlers are insecurely attached due to caregivers who were distracted, dismissive, unreliable, absent, or perhaps threatening. This gives them, as adults, a flawed working model of relationships. It's a model—one low on trust and high on negative emotion—that needs to be unlearned and corrected.
- Although the concept of EQ wasn't around when Bowlby and Ainsworth were doing their work, there are some clear similarities. The parents of insecurely attached children have failed in their role to regulate emotions in their children and to teach them their own EQ skills.
- This is important because as we think about intimacy, it helps us understand that the roots run very deep. Maybe someone is having a difficult time building intimacy, seem cold or aloof, has dramatic reactions to perceived rejections, or seem utterly relieved when a healthy relationship ends. These seemingly odd behaviors might go all the way back to the person's attachment style as a toddler.
- Knowing the etiology doesn't change it, but it does provide an explanatory model, and when we have explanation for our behavior, it helps us reappraise the situation: She isn't just being difficult, or he isn't just a cold fish. They have missed the love and security that all children deserve.
- In a study by Romina Samadi and colleagues published in 2013, 300 students were assessed for attachment styles and given the Bar-On Emotional Quotient Inventory. Samadi found that secure attachment was positively correlated with EQ abilities and stress management skills. Several other studies have validated this finding.

- The study that we haven't yet seen is showing that EQ training can alter attachment styles and relationship quality. We do know that EQ is correlated with marital or other relationship satisfaction, so it would make sense that if EQ improves, then so would relationship and attachment.

## Relationships

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- Unfortunately, the current state of affairs with relationships in the United States isn't great. Families are now more dispersed than ever before. We are still electronically connected, but we don't have those close-knit extended families living within a few miles of one another.
- About 1 in every 4 households is a single person. Half of all marriages end in divorce, and about 36% of Americans report themselves as lonely. Is this a modern epidemic? Is this a consequence of people moving to urban centers?
- We don't know exactly what's going on, but there are a few different possibilities. We've certainly become a much more

About 36% of Americans report themselves as lonely.



mobile society, where people move more often, change jobs more often, or change schools more often.

- We have been cultivating and promoting a culture of independence and individualism, which de-emphasizes the value of interpersonal bonds. We've seen growing workloads and longer work weeks; we've seen more financial struggles and difficulties, which mean more work time and less family time.
- What can we do about this? There obviously isn't an easy solution, and any improvement would probably require a multipronged approach, including sweeping social changes, such as shorter work weeks or better family leave. But it's also about values and how the value of intimacy seems to have been diminished.
- This is where EQ comes in and how EQ training programs can help. EQ helps us express and perceive emotions, a necessary skill for the development of intimacy and in being able to experience and respond to loneliness.
- EQ helps us understand why intimacy might be waning or why we feel the emotion of longing or malaise. EQ helps us regulate emotions in ourselves and others by helping us appreciate the bidirectional effects that our emotion and emotion regulation strategies have. Cognitive behavioral therapy or acceptance and commitment therapy provide important tools to help us remember our values, reappraise our situations, and do some creative problem solving.
- We've talked about emotion dynamics in terms of latency, valence, speed, and duration. Relationships have dynamics, too. They may wax and wane, be intense, or be mellow and comfortable.
- In terms of EQ, we can think of relationships as potent triggers (think situations) that draw our attention, activate cognitions, and produce emotional states. Because relationships occur over

time, we establish a pattern and collection of memories—our histories together.

- Just as we have habits of mind, we also have habits of the heart. You may have a tendency to withdraw. You may feel rejected. You may have a tendency to engage in passive-aggressive behaviors or to be very competitive with your spouse.
- In terms of EQ, it's important to be aware of what is threatening to you. Is it rejection? Is it the fear of not being right? Is it not being respected? Is it being suffocated? Threats activate our reptilian brain, our amygdala, which responds with emotions such as fear or anger to help you react. Being emotionally intelligent means knowing your habits of heart and being able to adjust to match the realities of the situation.

## Intimacy

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- There's not one magic formula for deepening intimacy because relationship dynamics will vary, but there are a few core common concepts.
  - **Time.** This means uninterrupted quality time where you've clearly made one another a priority. Shared events, shared struggles, and shared history are all the raw materials that can build intimate moments.
  - **Risk or vulnerability.** To become close to someone, you have to allow him or her in. And this means being willing to expose yourself—to show your weakness and risk ridicule or rejection.
  - **Communication.** Conflicts will inevitably arise, but if you have the tools to resolve the conflict, it can often make you stronger.
- In January 2015, *The New York Times* posted an article that quickly went viral. It claimed to present the 36 questions that would make someone fall in love with you. It was based on the research of psychologist Arthur Aron, who used 3 sets of 12 questions, with each set becoming more intimate and familiar.



Conflicts will inevitably arise in relationships, but if you have the tools to resolve the conflict, it can often make you stronger.

- Aron says, “One key pattern associated with the development of a close relationship among peers is sustained, escalating, reciprocal, personal self-disclosure.” Hence, he created a series of guiding questions to help 2 people become more intimate. Examples from each of the 3 sets, in increasing intimacy, are as follows: What would constitute a perfect day for you? What do you value most in a friendship? When did you last cry in front of another person?
- The results of Aron’s study were published in the *Personality and Social Psychology Bulletin*. He found that individuals using the intimacy questions were more successful in building a close relationship than comparison subjects that just made small talk. The part about making someone fall in love with you was just a headline. Google the article title “The 36 Questions That Lead to Love” if you are interested in trying this with a friend or loved one. It’s a fun and sometimes poignant exercise in intimacy building.
- To assess intimacy, in a clinical setting, we usually look for triangulation, which involves 3 different sources of data that

we then overlap and compare with one another. First, we give each individual in the couple self-report surveys about their relationship. This often includes perceptions of how things are now versus how he or she would like them to be. Second, we interview each member of the couple separately. Third, we interview and observe them together. From this, we can develop a working formulation of how to best help the couple.

- A sample survey is the Experiences in Close Relationships-Revised, which is a 36-item self-report attachment measure developed by R. Chris Fraley, Niels Waller, and Kelly Brennan in 2000. The survey yields scores on 2 subscales: avoidance, sometimes broken into discomfort with closeness and discomfort with depending on others; and anxiety, which includes fear of rejection and abandonment. A self-scoring version of the survey is available online for free at [www.yourpersonality.net](http://www.yourpersonality.net).

### Suggested Reading

Aron, et al, "The Experimental Generation of Interpersonal Closeness."

Fredrickson, *Love 2.0*.

Gottman and Silver, *The 7 Principles for Making Marriage Work*.

Hendrix, *Getting the Love You Want*.

Levine and Heller, *Attached*.

### Questions to Consider

1. What is your primary attachment style? How has this played out in your current relationships? Is there anything you need to do about it?
2. What would you say about the dynamics between Carol and Norris? Is she being overly insecure? Does he need to communicate more? Do you think they will make it? Why or why not?



## Lecture 14

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# Interpersonal Conflict

In this lecture on EQ and conflict, the goal is to shine some light on the role emotions play in conflict and negotiations. Even under the best circumstances, conflict can be an uncomfortable experience that activates a lot of emotions. This lecture will try to unpack this big topic by looking at the emotions involved in conflict and how those emotions affect the ways we think and communicate.

## Conflict in Social Groups

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- Conflict in social groups has to do with clashes between social groups that see one another as different. Culture gives us emotion display rules, directs our attention, shapes our cognitions, and even teaches us emotion regulation strategies. Similarly, our process of identifying with a culture and a subculture tells us to what groups we belong—such as men, women, LGBT, Irish, Southern, Christian, Democrat, or Republican. The list seems almost endless.
- These group memberships are important because they shape the way we process information. We assume that people that belong to our in-group are similar to us. We are more likely to give them the benefit of the doubt. Depending on the group, we may be more likely to give them help.
- For someone who belongs to an out-group, we do the opposite: We may assume the worst of them, may be more argumentative and less flexible, and may assume that all those others are all the same. This in-group/out-group dynamic happens all the time.
- Group membership isn't bad; it gives us an identity and helps facilitate social support. Humans are tribal, and we need our tribe to fit in and survive.
- But going into a conflict situation, you have to be aware of how you identify yourself and how your conflict partners identify themselves. We don't enter into a situation with a clean slate. We enter in with all of our wonderful, terrible messiness chock-full of bias.
- The right way to apologize depends on the infringement, but some general guidelines can be taken from Steven Scher and John Darley in the *Journal of Psycholinguistic Research*. There are 4 parts to a good apology:
  1. You have to express remorse. You have to use "I" statements and actually say the words "I'm sorry" or "I apologize."

2. You have to admit responsibility and demonstrate that you understand how what you did has affected the other person and made him or her feel. You're demonstrating empathy.
3. You have to make amends. Don't just say, "Let me know if there's anything that I can do." That puts the impetus on the other person. You need to say, "Please, tell me what I can do to make amends."
4. You need to promise that it won't happen again. Conflict might have broken trust, and you want to try to rebuild that trust by promising that it was a one-time thing.

- A unique approach to handling conflict comes from the Georgetown University undergraduate program, where they, like many college campuses, often struggle with the tensions between free speech and hate speech. You might have heard about safe spaces and trigger warnings, but Georgetown created Red Square, where students can say anything they want, in any way they want, but they have to leave it behind. The policy was a compromise to give student groups a place to assemble and recruit without having disruptive protests all over the city.



Many college campuses often struggle with the tensions between free speech and hate speech.

- We know from the emotional-regulation literature that emotion suppression comes with a high physiological cost: The emotion has already happened and done its damage, and it takes a lot of energy. But we've also learned that giving in to emotional urges can intensify the emotion.
- We also know that establishing group membership creates in-group versus out-group biases, but people are going to cluster in groups nonetheless. Red Square encourages expression, gives permission, and allows protests or even movements to form, but then students are told to leave it all behind. There hasn't been any data on the outcome of this natural experiment, and there clearly aren't any easy answers. Only time will tell if the "leave it behind" part works or if it just goes underground when outside of Red Square.
- Whether in a free speech zone or not, intense conversations and conflicts sometimes emerge when we least expect them to. How do you manage them? Should you engage in them? Based on what we know about EQ, intimacy, and social intelligence, what might we do? What might be our rules for survival? Are there rules of engagement—really guidelines on conflicts—that would help us navigate difficult situations? Much of it comes from our starting assumptions, and these may seem intuitive and obvious but are often forgotten.
  - Every person has value and deserves respect.
  - We all have biases, and we all make mistakes.
  - We often have shared goals but have very different ideas about how to get there.
  - We are all growing and learning.
  - Work on yourself and find support. Move yourself into a healthier frame of mind.
  - Consider your biases and assumptions. Intentionally look for exceptions to the rule.
  - Build personal relationships.
  - Choose your battles. You can't fight all the time.

- Use attentional deployment. Avoid the news and Facebook sometimes.
- Before a conflict, recall positive memories about the individual and individual characteristics that make him or her more human.
- Use situation modification when setting up for battle.
- Keep the engagement time limited, and don't be afraid to take a time-out if things get too hot.
- Have an internal mantra that helps you regulate during the conversation.
- Take a side step and find an area of agreement.
- Don't confuse politics with people. We are all people in this together, and at our most basic level, we all want and need the same things.
- If protests happen and rage is expressed, know that that is also part of the process. Our country was founded on protests and freedom of expression. We don't have to agree, but we do need to find common ground through compassion, kindness, and emotional intelligence.

## Dyadic Conflict

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- Dyadic conflict is conflict between 2 friends, spouses, or whomever. It occurs on a smaller scale than big political conflicts but can still be quite charged.
- George Bernard Shaw tells us that the single biggest problem with communication is the illusion that it has taken place. It's tongue-in-cheek but all too true. Miscommunication occurs regularly and drives a lot of conflict.
- There's been much written and studied about differences in how men and women communicate. Men spend about 2/3 of social conversations talking about themselves, are less likely to pick up on emotional cues, and are less likely to take turns or give openings to someone else. Men report and women engage in rapport talk. Much of this was summarized and made popular by John Gray,



Dyadic conflict is conflict between 2 friends, spouses, or whomever.

who wrote *Men Are from Mars, Women Are from Venus*, or by Deborah Tannen, who wrote *You Just Don't Understand*.

- How do we go about assessing communication? We might use self-report surveys, interviews, reports from others, and even observational studies. Another methodology uses trigger-tape studies, where you watch a stimulus and then have to generate a response.
- The Interpersonal Communication Skills Test assesses 5 categories of key skills: insightfulness, verbal expression, assertiveness, listening skills, and emotional management—a sort of road map to the essential competencies to having a healthy, emotionally intelligent conversation.
- There are 5 basic requisites for discussion of emotions.
  1. You have to be able to access your emotion. You can't communicate your emotion if you're in denial about it.
  2. You need verbal communication skills to talk about your emotions.

3. There needs to be a necessary level of self-esteem. You have a right to feel and pursue your own goals.
4. There needs to be a safe environment.
5. You need to have a willing and able partner.

- How can you improve communication skills? There are 2 people: the sender/talker and the listener. You need to pick a good time for the conversation. You need to clearly express what you need and to make it clear, having realistic expectations, sticking with one issue at a time, and being aware of your own and the other person's verbal and nonverbal signals. If you are the listener, you need to work on eliminating distractions, improving nonverbal and verbal cues, and using empathic statements.
- Drawing from the couple's emotion regulation research of Robert Levenson and others, we see that higher marital satisfaction is associated with less suppression of negative emotions. We also see that the inability to regulate negative emotions at all increases the likelihood of partner violence.

### Suggested Reading

Beck, *Prisoners of Hate*.

Chodron, *When Things Fall Apart*.

McKay, Rogers, and McKay, *When Anger Hurts*.

Nussbaum, *Anger and Forgiveness*.

### Questions to Consider

1. What role does the news media or marketing play in triggering, escalating, and/or changing emotions that lead to conflict? How can we strengthen our emotional immune system so that we are not so easily triggered and misled?
2. What kinds of conflict cause permanent damage to relationships? If healing cannot occur, what progress can be made? Does forgiving someone resolve the conflict?



## Lecture 15

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# EQ in the Workplace

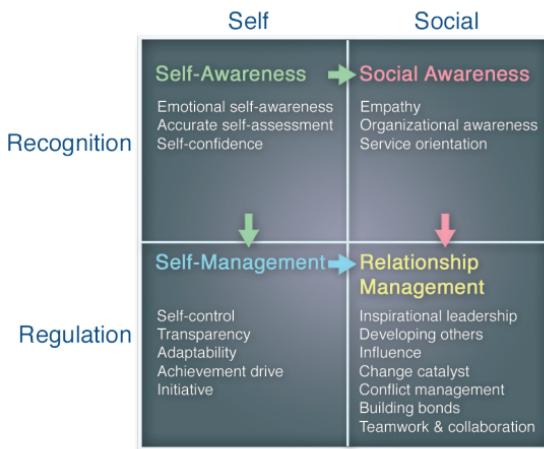
In this lecture, you will learn how EQ manifests in the workplace and what kinds of outcomes it might predict. The concept of EQ is now prominently represented in nearly all business school curricula and is commonly found in workplace and leadership training programs. This lecture reviews the history and current research on how and why EQ matters in the workplace.

## Why EQ in the Workplace Matters

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- The average American spends nearly 100,000 hours at work during his or her lifetime, and U.S. workers currently put in around 1800 hours at work per year. We need a framework to help treat occupational stress, but we also need a framework that helps us understand success.
- To determine what predicts success—such as intelligence, socioeconomic status, or ambition—we first have to decide what success means. Is it money, advancement, prestige, status, growth, or satisfaction? This is a fairly personal issue with no correct answer. Interesting research shows that objective measures of success and subjective success are often quite different things.
- Let's take a middle-of-the-road definition and say that success isn't making millions and isn't being a CEO but does include advancement, recognition, compensation, and constructive relationships with peers, bosses, and/or supervisees. It includes a reasonable level of satisfaction and contentment. What do you need to get there?
- A 2006 study by Accenture of 251 executives in 6 countries concluded that while intelligence is important for career success, it's a matter of how you are smart. Interpersonal competence, self-awareness, and social awareness—all elements of emotional intelligence—are better predictors of who will succeed and who won't.
- Recall the primary definition of EQ developed by John D. Mayer, Peter Salovey, and David Caruso: “the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in the self and others.”
- Note the 4 elements, defined as abilities or skills that can be trained: The ability to express and perceive emotion, use emotion (harness for cognitive tasks), understand and reason with emotion, and regulate or manage emotion in the self and others.

- Remember the alternate model of EQ that was developed by Daniel Goleman. It is the one that is most commonly adopted by businesses, and variants of that model are taught in most business schools. Goleman conceptualized EQ as a set of skills and personal competencies. He described 5 domains: knowing your emotions; managing your own emotions; motivating yourself by marshaling emotions, such as delaying gratification or entering flow states; recognizing and understanding other people's emotions; and managing relationships.
- These competencies can be visualized in a 2-by-2 table with regulation and recognition on one side and self and social on the other side, giving us 4 quadrants that capture all 5 elements: 3 in the column for self and 2 for social. Keep in mind these 4 quadrants and their relationship to motivation and collaboration in the workplace.



- In 1998, Goleman presented specific business adaptations in his book *Working with Emotional Intelligence*. In the book, he defines an emotional competence as a learned capability based on emotional intelligence that results in outstanding performance at work. He identified a total of 25 relevant emotional competencies that fall into personal and social categories.

- The social competencies are particularly relevant in a work setting.
  - **Empathy:** The awareness of others' feelings, needs, and concerns. Empathy competencies include understanding others, developing others, leveraging diversity, and political awareness.
  - **Social skills:** The adeptness at inducing desirable responses in others. This category includes influence, communication, conflict management, leadership, change catalyst, building bonds, collaboration and cooperation, and team capabilities—all of which are highly relevant to success in a work setting.
- When it comes to predicting success, the outcomes we are interested in are somewhat more specialized than general studies of EQ. In work settings, metrics might include employee satisfaction, job turnover rates, job engagement, productivity, and even the overall success of the organization. There have been some big claims about EQ in business settings, and those were somewhat hyperbolic. It is important, though, not to dismiss EQ entirely.



Empathy competencies include understanding others, developing others, leveraging diversity, and political awareness.

- Research has shown that EQ can help predict positive outcomes, such as sales, high performance, stress management, and creativity. But it might also play a role in removing negative incidents, such as work-related accidents.
- In one study, emotional abilities were 4 times more important than IQ in determining professional success and prestige. An analysis of independent studies found a correlation of 0.23 between EQ and performance. But EQ was also highly correlated with personality. A study of store managers in a retail chain found that the ability to handle stress predicted net profits, sales per square foot, sales per employee, and sales per dollar of inventory investment.

## Emotionally Unintelligent Behaviors

- What are some of the common emotionally unintelligent behaviors you might see at work, and what can you do about them? First, you want to regulate your own emotions and then perhaps do something to regulate the emotions in your coworkers.
- Remember all the categories in the ER continuum and try to rely more on antecedent-focused strategies: situation selection, situation modification, attentional deployment, and cognitive reappraisals. You will also need to do some response modulation. What kinds of emotional unintelligence emerge?
  - **Insensitivity**, or not taking into account the needs or preferences of other people, often stems from a lack of empathy and may reflect early family dynamics. As with most, because we often don't know what's driving a particular behavior, it's important to assume the best. Consider building a relationship with the individual, and use cognitive reappraisals to manage your own emotions.
  - **Arrogance** can often mask underlying emotions. Use somatic quieting to avoid escalation. You need to understand where the arrogance is coming from. It might be a long-standing pattern that's the product of family upbringing, culture, or privilege. To

some, optimism might seem arrogant, so it might be a matter of interpretation. It might also be social anxiety masquerading as arrogance, which alienates other people. Giving these individuals 360° feedback often helps.

- › **Rigidity** may stem from many different causes, such as arrogance, anxiety, or even conscientiousness from someone who works really hard and wants to do a good job. Thank these types of people for their passion but request openness and flexibility, primarily through suggestions and role modeling.
- › **Volatility** reflects poor emotion regulation abilities. Volatile people don't have a filter and have emotional outbursts. This may be culturally driven. These individuals need mentorship and feedback using concrete examples of when they've been volatile and "I" statements. There are a number of cognitive behavioral therapy and dialectic behavior therapy skills that could help these individuals.

## Emotional Intelligence Training at Work

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- According to the Association for Talent Development, 4 out of 5 companies now offer some variant of EQ training. Although what is in vogue has changed—work culture is particularly hot right now—these programs often include many of the same competencies that are part of the Goleman model. Unfortunately, there is huge variability in these programs, and almost none are carefully evaluated. Fortunately, there are exceptions, and important research is ongoing.
- The Rutgers University-based Consortium for Research on Emotional Intelligence in Organizations has led the way in catalyzing this scientific work, collaborating with organizations that range from the U.S. Office of Personnel Management to American Express.
- The life insurance division of American Express created an EQ training program to first help with client relationships and sales and then expanded the program to include manager training.



It targeted virtually every aspect of emotional intelligence, but particularly the competencies of emotional self-awareness, self-control, empathy, communication, and conflict management.

- They've tried a number of variations in training length and training methods, and the strongest results come from 2 to 3 days of experiential training with a month to practice, followed by another 2 to 3 days of training. The first half covers self-awareness and self-management, and the second half focuses on interpersonal effectiveness.
- And it seems to work. Comparing intervention to control sites, participants saw a 13.5% improvement in their Attributional Style Questionnaire scores—they become more optimistic. More impressively, sales increased 10% and revenues increased 20%. There have been a number of validation trials showing that the program is worth the investment.

- Today, companies around the world use EQ when hiring, promoting, and developing their employees. Johnson & Johnson found that in divisions around the world, those identified at mid-career as having high leadership potential were much stronger in EQ competencies than were their less-promising peers.

## Suggested Reading

Goleman, *Working with Emotional Intelligence*.

Harvard Business Review, *HBR's 10 Must Reads*.

Lusch and Serpkenci, "Personal Differences, Job Tension, Job Outcomes, and Store Performance."

Seligman, *Learned Optimism*.

Seligman and Schulman, "Explanatory Style as a Predictor of Productivity and Quitting among Life Insurance Sales Agents."

Spencer, McClelland, and Kelner, "Competency Assessment Methods."

Spencer Jr. and Spencer, *Competence at Work*.

## Questions to Consider

1. Why has Goleman's model of EQ been so popular in workplace settings? What need has it fulfilled?
2. What's the downside to stressing EQ in the workplace? Are there some professions where it might be contraindicated?



## Lecture 16

# Occupational Stress and Burnout

In this lecture on occupational stress and burnout, you will learn about the current state of the American worker, explore occupational stress, and then define the disorder called burnout. The lecture will end by analyzing how EQ and other interventions can help.

## How Much We Work and Why

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- There has been an important social ebb and flow in how much we work and why. In the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, workdays were routinely 12 or even 16 hours long. The average workweek was 60 hours. With the advent of unions, collective bargaining, and progressive labor laws, the workweek declined to around 40 hours after World War II and the traditional 9-to-5, Monday-to-Friday model.
- Currently, Americans work an average of about 35 hours per week, versus 30 hours per week in France and 27 hours per week in the Netherlands. But these kinds of broad averages can be deceiving.
- Over the past several decades, we've seen a big shift from manufacturing to white-collar service jobs, with particularly large growth in health care and technology. And while we have seen some national economic growth, salary growth has been relatively flat for middle- and lower-class jobs, necessitating longer hours and sometimes having a second job.
- In fact, 30% of U.S. workers are often or always under stress at work, and work stress has increased 300% since 1995. About 40% of missed work is due to stress, and 80% of on-the-job accidents are stress related. Problems at work are more strongly associated with health complaints than are any other life stressor—more so than even financial problems or family problems.

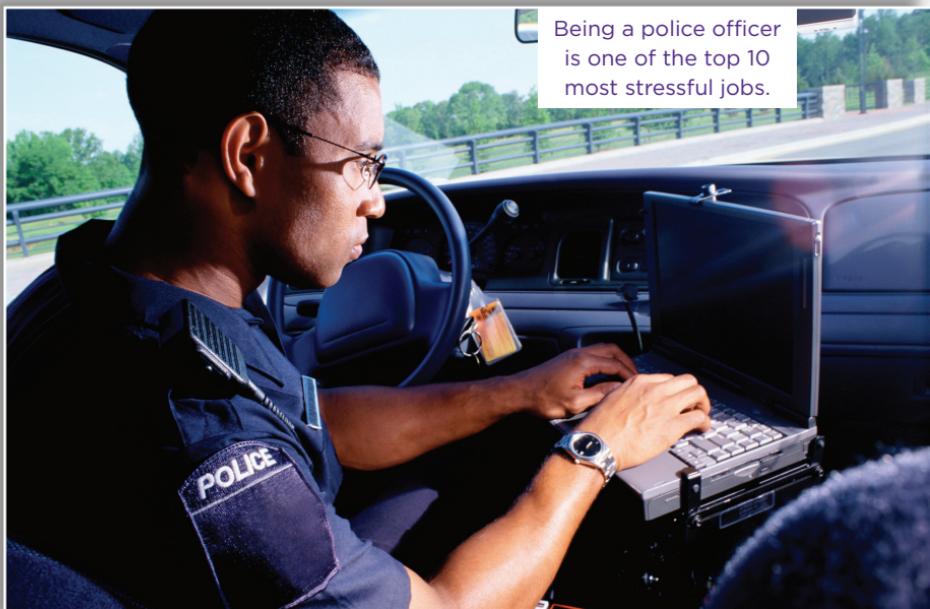
## Occupational Stress

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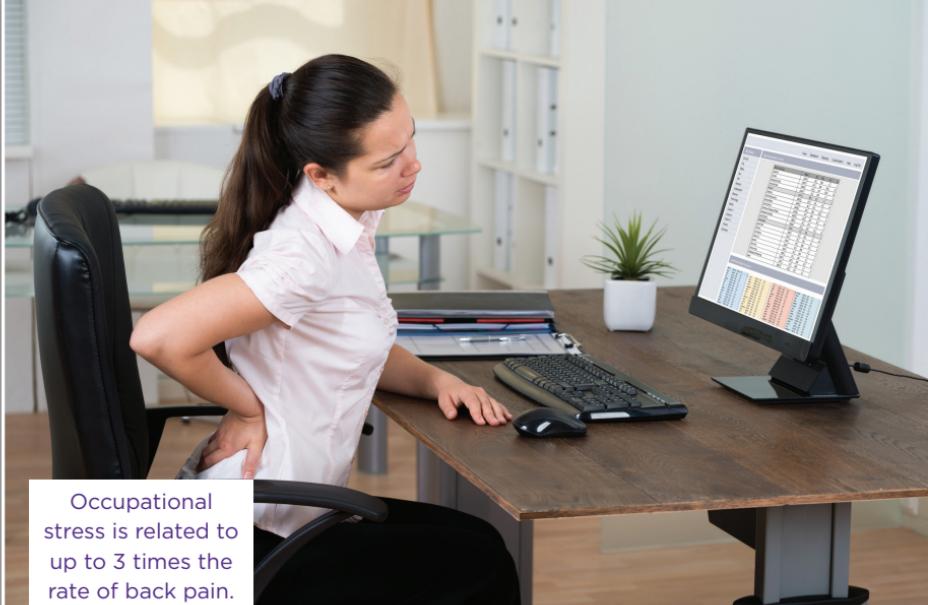
- Occupational stress is the experience of stress caused by work and/or occupational demands. Recall that stress includes biological symptoms, emotional changes, behavioral changes, and cognitive consequences. Remember that the stressor is anything real or imagined that sets off the whole chain of events—in this case, something in the workplace. Recall, too, that

it isn't just about the external situation; it's also about how we think about it: our primary and secondary appraisals.

- The National Institute for Occupational Safety and Health says that human health and social work employees are at greatest risk. Accountants and bookkeepers are at surprisingly high rates of burnout. Large companies tend to have more stress and burnout. People who work the night shift, weekend hours, or overtime are also at greater risk. It's estimated that it cost the United States about \$42 billion a year in lost productivity. If you include the cost of health care, that number rises to \$300 billion.
- The top 10 most stressful jobs, in order of decreasing stress, are as follows: enlisted soldier, firefighter, airline pilot, air traffic control, police officer, event coordinator, intercity school teacher, taxi driver, customer service operator, and EMT.
- General risk factors include a perceived lack of control, high demand or job strain, greater disparity between effort and reward, and greater perceptions of being exposed to "threats" and fewer "challenges" to grow and develop.



- Tom Cox says that there are a number of work-specific factors that can predict job stress and job burnout: excessive workloads, conflicting demands and lack of role clarity, lack of involvement in making decisions that affect the worker, lack of influence over the way the job is done, poorly managed organizational change along with job insecurity, ineffective communication and lack of support from management and colleagues, and psychological or sexual harassment or even third-party violence.
- Protective factors include high perceived control, high reward matches high demand, a bump in social status, and deriving a sense of meaning or purpose from your job.
- To measure occupational stress, we can assess the individual, the working group, or the workplace. We could analyze self-report questionnaires, use independent observers, or examine objective data from the company or business (statistics on staff turnover, satisfaction surveys, financial indicators, or HR complaints).
- To measure individual stress, you could use measures such as the Perceived Stress Scale. If you want to include the work context, the Occupational Stress Inventory has 140 items and looks at occupational stress over 3 dimensions: occupational stress, the psychological strain on the individual, and the coping resources available to that individual.
- What are some of the medical consequences of occupational stress? The findings on occupational stress and cancer are somewhat controversial because it's unclear if it's the occupational stress or the occupational exposures that could increase an individual's risk for cancer. Occupational stress is related to up to 3 times the rate of back pain, and this also seems to be true for other forms of stress. There are also strong findings linking cardiovascular disease to occupational stress.
- There is also the behavior aspect. When we're stressed, we tend to do things that harm us, such as drinking more alcohol and



smoking cigarettes. We have a worse diet and exercise less, and our sleep is sometimes disrupted.

- What are some ways to combat work stress? There are environmental changes that you can make, such as changes in amount of light, temperature, noise, and space. You can decrease levels of ambiguity and give employees more predictability, or better descriptions of what expectations might be. You can institute a process of shared decision making so that employees feel as if they have a voice. You can try to make the work more interesting. You can promote social relationships and give rewards for good work.
- Other ways to combat work stress include using positive-emotion exercises, such as beginning a daily gratitude journal or trying an exercise where you ask yourself 3 questions at the end of each workday to shift your tension to something positive: What surprised me today? What moved me today? What inspired me today? You can also use your cognitive behavioral therapy skills, such as positive reappraisals and recalibrating your perspective or expectations.

## EQ and Stress

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- Recall the EQ model that involves the perception and expression of emotion, the understanding of emotion, and the regulation of emotion in the self and others. EQ can influence our work performance and relationships at work in many ways.
- Occupational stress can be thought of as a special subset of stress overall. It specifies the context in which the stress occurs—your job—and brings in more variables regarding workload, interpersonal dynamics, and even how your job affects your identity and sense of worth.
- As with general stress, it is likely that EQ trait models are highly correlated with occupational stress. Recall that measures such as the EQ-i even include a subscale for stress management skills.
- In 2009, a study done by Muhammad Ismail and colleagues looked at the role of EQ in mediating the relationship between work stress and job performance. In other words, they wanted to see if EQ could buffer stressed employees and allow them to still be productive. The results were positive.
- A study of 180 nurses in Spain found that nurses who score high in emotional clarity and emotional repair reported less stress, whereas those with high scores in attention to emotions experience greater levels of stress.

## Workaholism and Burnout

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- Workaholism increases the risk of divorce by about 40%, and a burst of increased work hours can temporarily improve productivity but eventually erodes into low efficiency and performance.
- The Bergen Work Addiction Scale was developed by clinical psychologist Cecilie Andreassen and her team at the University

of Bergen after testing 12,000 Norwegian workers from 25 different industries. The scale uses 7 questions that reflect the hallmark behaviors of individuals who have work addictions.

- Workaholism influences work norms, stresses others out who try to keep up, and creates toxicity. Eventually, it causes job conflict and job loss. Workaholics don't necessarily get burned out, but those around them do.
- Burnout is a state of chronic stress that leads to physical and emotional exhaustion, cynicism and detachment, and feelings of ineffectiveness and lack of accomplishment.
- Social psychologists Christina Maslach and Susan Jackson at the University of California, Berkeley, have done much of the original work that has defined the field—as well as the disorder and how it is measured. More recent work has suggested that the exhaustion symptom is really the driver of the syndrome.
- Psychologists Herbert Freudenberger and Gail North have theorized that the burnout process can be divided into 12 phases, which are not necessarily followed sequentially: the



compulsion to prove oneself, working harder, neglecting personal needs, displacement of conflict, revision of values, denial of emerging problems, withdrawal, obvious behavioral changes, depersonalization, inner emptiness, depression, and burnout.

- Some evidence suggests that burnout is clinically similar to depression. In a 2013 *Journal of Health Psychology* article by Renzo Bianchi, depressive symptoms in burned-out workers were compared to clinically depressed patients. No diagnostically significant differences were found between the 2 groups.
- Moreover, a study by Bianchi and colleagues showed that about 90% of burned-out workers meet diagnostic criteria for depression, suggesting that burnout may be a depressive syndrome rather than a distinct entity. The view that burnout is a form of depression has found support in several recent studies.
- Christina Maslach, Wilmar Schaufeli, and Michael Leiter identified 6 risk factors for burnout: mismatch in workload, mismatch in control, lack of appropriate awards, loss of a sense of positive connection with others in the workplace, perceived lack of fairness, and conflict between values.
- The job-demands model of burnout proposes that burnout is influenced by job demands and job resources. Job demands are the physical and psychological costs of work, such as work pressure and emotional demands. Job resources are organizational aspects of the job that help employees manage job demands.
- A review by Evangelia Demerouti in the *Journal of Applied Psychology* found that job demands are most closely related to the exhaustion component of burnout while lack of job resources is most closely related to disengagement. Demerouti also importantly showed that burnout was not just found in human service or health-care jobs but was found in a number of other professions, too.

- In an interesting study published in the *International Journal of Nursing Practice*, Eunyoung Hong and Young Sook Lee used structural equation modeling to show that EQ reduces job stress, burnout, and turnover intention. Perhaps EQ serves as a protective factor, but EQ training might also serve as a treatment.
- The most common measure of burnout is the Maslach Burnout Inventory (MBI), named after Christina Maslach. It operationalizes burnout with the classic 3 dimensions: exhaustion, cynicism and detachment, and ineffectiveness. The MBI is a 22-item survey that uses a 7-point scale. It has been used in hundreds of studies and really doesn't have a competitor. But it isn't free.
- Ways to combat burnout include time away from work, change in job description, reengagement with sources of meaning, and better work-life balance.
- Most burnout prevention and treatment programs are based on cognitive behavioral therapy, which makes good sense given its empirical support for the treatment of depression. We could use activity scheduling, cognitive reappraisals, somatic quieting, physical exercise, and problem solving.
- It's helpful to have a quick intervention that can be done in the middle of day, perhaps even several times a day. We want to trigger somatic quieting to reduce the stress response, but we also want to build skills in concentration, focus, and nonjudgment—the things you typically see in mindfulness.

## Suggested Reading

Fredrickson, *Love 2.0*.

Kabat-Zinn, *Full Catastrophe Living*.

Maslach, *The Truth about Burnout*.

Mikolajczak, Menil, and Luminet, "Explaining the Protective Effect of Trait Emotional Intelligence regarding Occupational Stress."

## Questions to Consider

1. If a person is burned out at work, does that mean that he or she by definition has been emotionally unintelligent? What part of burnout is attributable to the person versus attributable to work?
2. It has been said that all emotions, including negative ones, have a purpose. Does burnout have a purpose? If so, what?



## Lecture 17

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# Leadership and EQ

In this lecture on leadership, you will explore what makes a good leader and whether EQ plays a meaningful role. EQ has been identified as an important factor in promoting work performance in general, and some have suggested that EQ may be even more important for leaders and managers. As you climb the ladder, your emotional style and emotion regulatory capacity affects larger groups of people, and the intensity of the emotional situations to be handled increases greatly. This lecture reviews the literature on leadership and how emotions may play a role.

## Leadership Styles

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- The whole notion of positional leadership—that people become leaders by virtue of their power or position—is being challenged. In this older model, you simply get promoted until you reach your level of incompetence, and then you stay put. There is no leader selection, training, or development.
- These days, leaders are instead being asked to inspire team loyalty through their expertise, vision, and judgment. Leaders are seen as creators—at least in part—of workplace cultures and are drivers of employee engagement.
- There are 3 classic leadership styles used in the business world:
  - **Laissez-faire leadership:** Mostly hands-off with minimal direction and face time from the manager to the staff. For this style, you need trained and efficient intermediaries between you and your employees.
  - **Autocratic leadership:** This is a bit of a relic, but we all probably know someone like this. This is the dictator, the absolute powerful decision maker who cares little for input from others. It's quick and efficient but comes with many other costs.
  - **Participative leadership:** This is a sort of blend of the first 2 types. This leader is more hands-on but includes the input and creativity from employees.
- Two newer styles have more recently been studied:
  - **Transactional leadership:** This style gets things done within the current methods accepted by the industry. Many people refer to these methods as a “by the book” management style. Transactional leadership is comprised of contingent reward and management by exception (focusing on the mistakes of workers). Here, it isn't about inspiring your workers; it's about rewards and punishments—transactions.

➤ **Transformational leadership:** These are the creative thinkers, the disrupters who want change in as many ways as possible. This type of leader inspires people to perform well.

## Assessing Leadership Styles

- Recent EQ research has been used to assess the EQ characteristics present in different leadership styles.
- Bernard Bass and Bruce Avolio developed the most popular instrument for measuring transformational and transactional leadership: the Multifactor Leadership Questionnaire (MLQ). Newer versions of the MLQ have a third style of non-transactional leadership, which is still very similar to laissez-faire leadership.
- Recall the Emotional and Social Competence Inventory (ESCI) developed by Daniel Goleman and Richard Boyatzis. The ESCI is a 360° instrument that allows the leaders, their supervisors, their peers, and their supervisees to rate them on behavioral indicators of the EQ competencies.
- Remember that the ESCI is based on Goleman's EQ model, so it has 4 quadrants, or distinct areas of abilities: self-awareness, social awareness, self-management, and relationship management. Within those 4 areas, the ESCI lists 12 competencies. When leaders get their ESCI 360 report back, they are able to see how they perform in all of those competencies.
- An analysis of more than 300 top-level executives from 15 global companies by Lyle Spencer showed that 6 emotional competencies distinguished stars from the average: influence, team leadership, organizational awareness, self-confidence, achievement drive, and leadership.
- Using the James Gross model of emotion regulation, Chi-Sum Wong and Kenneth Law looked at both leader and follower EQ. They show that the EQ of followers affects job performance

and job satisfaction, while the EQ of leaders affects follower satisfaction and extra-role behaviors, or going the extra mile.

- Deloitte results showed, on average, an equity premium of up to 15% for organizations with perceived effective leadership and a discount of as low as 19% for organizations that were perceived to have ineffective leadership.
- These results reinforce an old saying: Leaders make and break organizations every day. Leadership and culture are the crosshairs that, when coordinated, can make for a competitive advantage in an organization.
- Building from the EQ and leadership literature, PepsiCo identified 9 core leadership competencies, assessed their leaders, and then tracked performance. Their list of 9 included several EQ-relevant concepts, such as empathy, self-confidence, political awareness, and adaptability. They found that if a leader had at least 6 of the 9 competencies, his or her performance jumped by 15%.

## Leadership Development

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- According to the Global Human Capital Trends report in 2016, the leadership challenge is urgent and growing in importance. In 2016, 89% of companies see leadership development as an important or very important issue while 28% of respondents reported weak or very weak leadership pipelines. Only 7% of companies believe they are “excellent” at building millennial leaders. Only 13% of companies report they are “excellent” at building global leaders. Only 14% of companies surveyed described themselves as “strong” at succession planning throughout the business.
- In 2016, companies spent nearly \$31 billion on leadership programs, but many of the programs seemed driven by fads, with little theoretical or scientific basis behind them. The Global Human Capital survey tells us that 40% of survey respondents believe that their current leadership programs provide only



“some” value, and 24% report that they yield little to no value. This provides a strong argument that we need something new.

- In 2012, Macquarie Group Limited, a global investment banking and diversified financial services group, reevaluated its leadership development programs. Macquarie launched a pilot program in early 2014. Offered to a selection of associate directors located in Macquarie’s major hub cities in Europe, Asia, Australia, and the United States, the program consisted of 2 3-day workshops delivered over a 12-month period, supplemented with a series of one-on-one coaching sessions, a 360° assessment, and a skilled volunteering experience.
- They were not taught how to behave, but how to think. Built around 6 core capabilities, such as setting direction, inspirational leadership, and collaboration, this flexible and innovative approach to learning allowed the content to be applied easily across business lines and geographies. And unlike many programs, Macquarie evaluated the program and got results.
- EQ researchers have noted the lack of quality work in leadership development and have created a consortium to address the

problem. The Rutgers University-based Consortium for Research on Emotional Intelligence in Organizations has led the way in catalyzing this scientific work. Today, companies use EQ for hiring, promoting, and developing their employees.

- Executive coaching has become a popular method for promoting emotional intelligence in organizations through leadership training. However, there have been few rigorous evaluations of such programs.
- The initial assessment may consist of an in-depth interview, a 360° assessment, and work simulations. The coach helps the client use the data from the assessment to set development and learning goals and priorities. As the name implies, it is more coaching—more hands-on and more directive than psychotherapy.
- A common teaching method in business schools is to carefully examine case studies. Sometimes it is a post-mortem, picking apart and analyzing disastrous outcomes. Other times, it is a study of success.
- Anne Busquet, formerly the head of the American Express Optima Care division, is a good example of how executive coaching can correct EQ deficiencies. Anne was demoted after it was discovered that several of her employees had hidden millions of dollars in losses. She was not directly responsible, but it was in part due to her leadership style.
- Anne was highly perfectionist and critical and had created an environment of fear. Her employees were afraid to tell her about the losses, so they hid them. Much to her credit, she went to executive coaching to soften her style. She became the head of the ailing American Express merchandise division and was able to make it again profitable in part due to her improved patience and better listening skills.

- In a study looking at performance feedback and self-confidence, MBA students were praised, were criticized, or received no feedback. The criticized and no-feedback groups equally suffered. A good leader must give feedback but has to be tolerant of employee mistakes and help them grow and learn.
- Some of the greatest business leaders and innovators in recent times don't seem to be particularly emotionally intelligent. Although perhaps no formal assessments have been made, biographical data suggest that Steve Jobs, Bill Gates, Larry Ellison, Mark Zuckerberg, and Elon Musk aren't particularly high in EQ—although they certainly have other remarkable skills instead. EQ is just one factor, but it probably is neither necessary nor sufficient to be a great leader. It's probably a great help in most situations, but there's too much counterevidence to suggest that it is a necessity.

## Suggested Reading

Harvard Business Review, *HBR's 10 Must Reads*.

Peterson, "Executive Coaching at Work."

Porras and Anderson, "Improving Managerial Effectiveness through Modeling-Based Training."

Rosete, "A Leader's Edge."

———, "Does Emotional Intelligence Play an Important Role in Leadership Effectiveness?"

## Questions to Consider

1. Name a highly successful leader or politician that you think might have low EQ. Why has he or she been so successful?
2. Is a great leader born that way, or can it be learned? How much of leadership success is related to EQ?



## Lecture 18

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# Workplace Culture

These days, companies are zooming ahead at breakneck speed, narrowly dodging obstacles, hoping to stay alive, with unlucky employees falling off here and there—but the determined survive, and the CEO keeps the pedal to the metal. Fortunately, success and a frenetic pace don't necessarily have to go hand in hand. We can intentionally construct and change our work cultures to be healthier and happier. In this lecture, you will learn about the definition of culture in a work context, the factors that shape culture, and some interesting programs that are intended to change cultures.

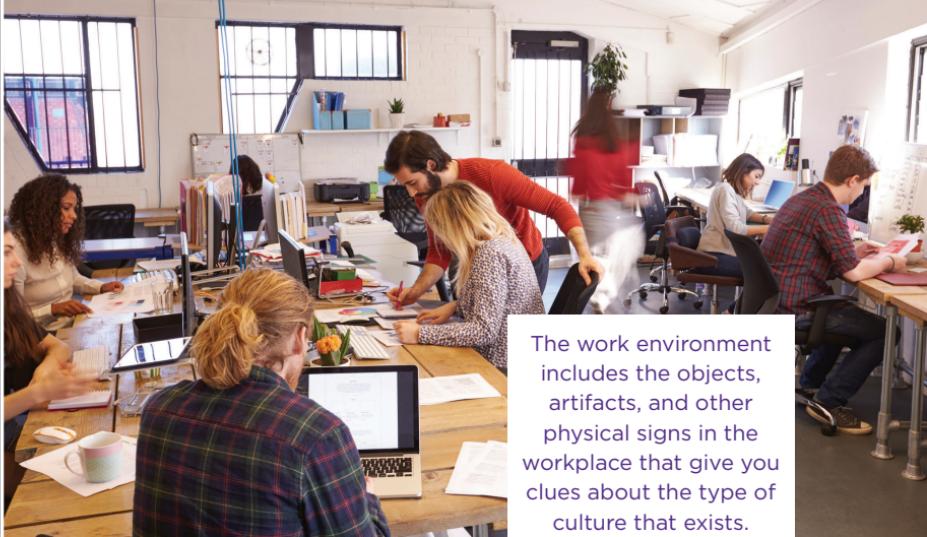
## Culture

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- Culture is a system of values, beliefs, and behaviors that shapes how actual work gets done. Whether intentional or accidental, every workplace has a culture, and we all take part in an iterative process both experiencing and creating it.
- According to Deloitte Consulting, culture is one of the most talked about business topics of 2016. An overwhelming 82% of respondents in Deloitte's 2016 Global Human Capital Trends report believe that culture is a potential competitive advantage. However, only 28% of respondents stated that they know their culture, and only 19% believe that they have the "right" culture.
- There have been substantial changes to work culture driven by the use and integration of technology, a diversifying workforce that includes more millennials, and moving to work models that include more focus on networks and teamwork. A new social contract is emerging between employees and employers. Employees are more like free agents now; it's not typical for people to accept a job in their 20s and commit to the same company for life.
- What affects culture?
  - **Leadership.** How does a leader communicate? What is his or her interactive style? What is his or her vision for the future, or expectations? What rewards are given or taken? What stories does he or she tell? What sort of narrative does the company have? How does he or she make decisions? To what extent is he or she trusted? What beliefs and perceptions does he or she reinforce?
  - **Management.** This includes the systems in place, policies and procedures, structure of the organization, hierarchy, organizational chart, and goals and objectives. Our employer is empowered to make decisions. What's the consistency? What's the support and interaction with the employees?

- **Workplace practices.** This includes the recruitment of employees, the hiring of employees, the onboarding process, compensation and benefits, rewards, recognitions, promotions, performance management, and wellness—many things normally controlled by HR.
- **Policies and philosophies.** This would include attendance policies, dress code, and code of conduct as well as organizational philosophies, such as hiring, compensation, pay for performance, and internal transfers and promotions.
- **People.** This includes people's personalities, beliefs, values, diverse skills and experiences, and everyday behaviors. This also includes interactional styles. Is there a norm of confrontation between coworkers? Is it a highly polite environment? Is there socializing at work or even outside of work? What's the ratio between collaboration and competition?
- **Mission, vision, and values.** Clarity of mission, vision, and values and whether they honestly reflect the beliefs and philosophies of the organization is an important ingredient. How inspiring are they to employees? To what extent are the mission, vision, and values stable, widely communicated, and continuously emphasized?
- **Work environment.** This includes the objects, artifacts, and other physical signs in the workplace that give you clues about the type of culture that exists. What do people place on their desks? What does the organization hang on its walls? How does it allocate space and offices? What do those offices look like? Are there common areas? What do those common areas look like, and how are they used?
- **Communications.** This includes the manner in which communication occurs in the workplace; the degree, type, and frequency of interactions and communication between leaders and employees, and managers and employees; and the extent of transparency in sharing information and making decisions.

- Across all of these categories, organizational details, and processes, there is an almost implicit tone—an emotional sense of how a workplace feels. A culture high in EQ will be aware of both the explicit and implicit emotional messages it sends—



The work environment includes the objects, artifacts, and other physical signs in the workplace that give you clues about the type of culture that exists.

and even the little things count as positive and negative. How is innovation recognized and rewarded? How is employees' medical leave managed? How is a downturn in business communicated to others?

- Organizations that actively manage their cultures typically have 30% higher levels of innovation and 40% higher levels of retention.

## Engagement

- In contrast to culture, engagement is about employees' level of commitment to the organization and their work. This involves the emotional responses to the culture at hand.
- Companies with highly engaged workforces outperform their peers by 147% in earnings per share, and their employees are 87% less likely to leave. It seems that emotion management plays a big role in building engagement and promoting retention.
- In Deloitte's 2016 Global Human Capital Trends report, 9 out of 10 executives surveyed cited culture and engagement as important or

very important. Yet only 12% of companies surveyed in 2016 believe they understand their culture. In 2015, less than half (46%) reported that they are prepared to tackle the engagement challenge.

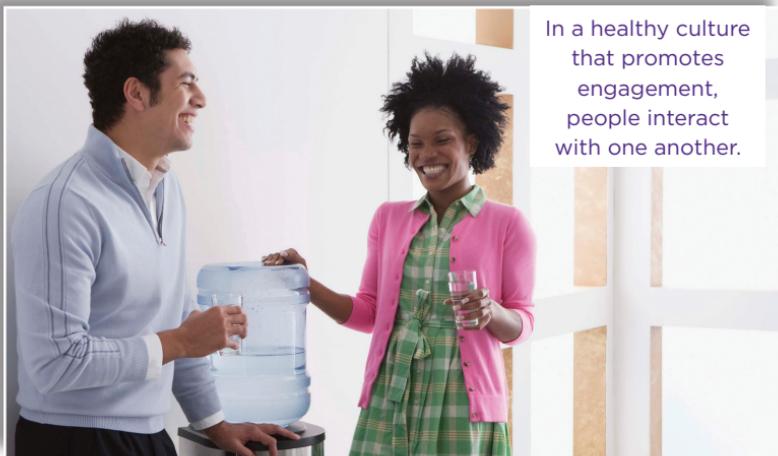
- Companies that proactively manage culture demonstrate revenue growth over a 10-year period that is, on average, 516% higher than those who do not. However, companies should recognize that culture and engagement—while linked—are 2 different concepts.
- What predicts engagement? A study by Edward Mahon, Scott Taylor, and Richard Boyatzis looked at the relationship of EQ, shared vision, shared positive mood, and perceived organizational support on employees' degree of organizational engagement. They found that these 3 things have a direct, positive association with engagement and that EQ amplifies the effect of shared vision and perceived organizational support.
- One of the signs you might expect to see in a healthy culture that promotes engagement is what happens at 5 pm, or whenever the usual day is supposed to end. Are people heading out 5 minutes early or staying late? What happens in staff meetings?
- Do people interact with one another, or are they all focused on the leader, awaiting their orders? How many initiatives have come from the bottom up? What is quality control like? Do people pay great attention to detail and take pride in their work? Do they go the extra mile to help customers even if it isn't their job?
- If they see a coworker who is overwhelmed and busy, do they step in to help? How does communication flow? Do you see bottom up and top down in equal amounts?

## Values and Behaviors

- Deloitte tells us that when organizational culture is aligned to business strategy, the workforce will act and behave in ways that

support the achievement of business goals. It's the leader's duty to uphold the values and beliefs of the organization's culture through his or her actions and decisions. This, in turn, enables the execution of strategy.

- Culture, leadership, and strategy are the triumvirate that together steer the organization toward excellence—and much like any triumvirate, being in sync is necessary for an effective working relationship.
- Just as people have core beliefs or conditional assumptions in the cognitive behavioral therapy sense, businesses have mission statements. They may articulate values. But even more important than what is written down is what is actually done. What are the business practices? How are the employees treated? How are problems solved?
- Cary Cherniss and Daniel Goleman tell us that an organizational mission statement serves an emotional function: articulating the shared sense of goodness that allows us to feel that what we do together is worthwhile. Working for a company that measures its success in the most meaningful ways—not just the bottom line—is itself a morale and energy raiser.



In a healthy culture that promotes engagement, people interact with one another.

- Just as we collect stories for a person to create a case formulation, a business consultant will collect stories about a business to create a formulation of that organization's culture. This includes the health of the organization but also the contributing or detracting factors. One of the biggest warning signs is occupational stress and professional burnout.
- Culture changes slowly, and it can take years before the new behaviors become embedded in the organization. Organizations need to have a broad approach to analyzing, measuring, and monitoring their culture, in an effort to shape and manage it effectively.
- One such measure is the Organizational Climate Questionnaire, which has 18 items divided over 6 different dimensions, all scored on a 1 to 5 Likert scale from "almost never" to "very frequently." It measures things such as organizational support, member quality, openness, supervisory style, member conflict, and member autonomy. This scale asks you to rate the questions twice: first noting what your business is actually like and a second time noting what your business would ideally be like. The questionnaire is free and available online.

## Improving Work Culture

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- Most MBA programs have adopted some variant of EQ training—particularly those that attract very bright but highly analytic and perhaps not so socially skilled people.
- Case Western's Weatherhead School of Management created a year-long training program for their business students but also offer it to other professionals. The course has 13-hour sessions per week and starts with a critical self-examination of personal values and goals—something that probably doesn't happen enough in business or other professional training programs.

- After the self-examination, students take up to 7 weeks to assess personal and social competencies. Based on these assessments, they develop personalized learning plans over the next 5 weeks. This unique, tailored approach allows each person to get exactly what he or she needs—maybe more practice with reading facial expressions, more practice on how to work a room at a professional function, or how to manage angry outbursts.
- When the year is complete, students on average show an improvement in 86% of the abilities, and they seem to maintain the gains at an extended follow-up.
- Culture Path, developed by Deloitte Consulting, was the winner of the top HR product for 2016 and is an example of a tool for culture change. It has 8 indicators. The core indices include collective focus, risk in governance, external orientation, and change in innovation. Differentiating indices include courage, commitment, inclusion, and shared beliefs. You can filter their assessment results by department, division, location, or level.
- Alyson Daichendt, a managing director with Deloitte Consulting and a thought leader in Deloitte’s Culture and Engagement practice tells us that we must recognize that the employee-work contract has changed. Employees are acting more like free agents, forcing leaders to think about and learn to build an organization that engages the workforce and brings work and life closer together. Leaders, more than ever, need to learn how to build organizations that engage employees as sensitive, passionate, creative contributors.
- Their group identified critical elements that make organizations “irresistible”: meaningful work, supportive management, positive work, growth opportunities, and trust in leadership. These critical elements are reinforced through work culture.
- While top-down creation and adaptations of culture are common, culture can also come from the bottom up. Culture is our lived experience every day at work. There are structures in place to

guide our behavior, but we can choose to follow or to diverge. We can share a kind word, help a colleague with work, or provide positive feedback or even manage up—discreetly guide and support our leaders. Ultimately, whether from the top or bottom, change will require skillful emotional awareness, understanding, and regulation.

## Suggested Reading

Friedman, *The Best Place to Work*.

Harvard Business Review, *HBR's 10 Must Reads*.

## Questions to Consider

1. Who creates the culture of the workplace? Is it the leader, the administration, or the employees? Who can change the culture, and how?
2. How does capitalism and the push for more productivity and profit affect workplace EQ? Can you be highly successful and high in EQ?



## Lecture 19

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# Stress Management

We've all experienced stress caused by situations beyond our control, but how many of us have been able to turn them into successful careers? This lecture will start with a review of stress, stress physiology, and the basics of stress assessment. From there, the lecture will move into strategies to help reduce stress, with a particular focus on how EQ can help.

## Stress

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- Stress is a highly orchestrated response to a perceived threat or challenge that includes biological, behavioral, cognitive, and emotional elements. A stressor is the real or imagined thing that sets off the process. One of the things that makes us human is we can become stressed about an entirely imaginary event.
- The transactional model of stress gives us a cognitively mediated understanding of why we get stressed. It starts with a potential stressor followed by our primary and secondary appraisals, which are how we think about the stressor.
- The primary appraisal is an appraisal about the stressor itself: Is it big? Is it serious? Does it matter? Secondary appraisals are about our coping resources or our ability to meet that threat or challenge. If you have a strong primary appraisal and a weak secondary appraisal, then you're probably going to have a big stress response.
- The last step in the process is the stress response, which includes the physiologic, cognitive, emotional, and behavioral elements.
- All stressors aren't created equally. Sometimes, events are classified as challenges, and sometimes they're classified as threats. Both activate our sympathetic nervous system—which is responsible for emotional arousal—but it's the threats that cause the lasting damage to our bodies.
- What makes an event stressful? Is it negative? Is it controllable? Is there some level of ambiguity or novelty? Are you already overloaded? Is the event central to values or a life domain that's very important to you? Is it a chronic (ongoing) stressor, or is it acute (one time only)? Good events, such as moving to a new city, can also be stressful.
- To understand stress physiology—the juice that drives this whole process—you really only need to know about 2 complementary



Massage activates your parasympathetic nervous system.

systems: the hypothalamic-pituitary-adrenal (HPA) axis and the sympathetic-adrenal medullary (SAM) system.

- The HPA is responsible for the release of a stress hormone called cortisol. As a hormone, it's secreted into the blood and exerts its effects throughout the body for a period of time. The SAM is an entirely different system. It's responsible for our fight-or-flight response and operates via adrenaline.
- If your significant other gives you a hug or physical affection, or if you get a massage or listen to relaxing music, it activates your parasympathetic nervous system, which gives us a rest-and-digest response, causing essentially the opposite of a stress response.
- Herbert Benson calls it the relaxation response, which is defined by decreased respiration, decreased heart rate, lowered blood pressure, and decreased blood to muscles. There is even lower blood sugars, lower cortisol, and lower adrenaline levels.
- Fortunately, there are many different ways to activate a relaxation response. It tends to require focused concentration, a quiet environment, and a passive (non-goal-oriented) attitude.

- With the autonomic nervous system, it is an automatic system, but there does seem to be variability between individuals, such as biological and genetic differences. There are also differences in life experiences—particularly those early in childhood that may rewire our autonomic nervous system so that it becomes more reactive, or has more intense reactions that last longer.
- Fortunately, we can train the autonomic nervous system. For example, we can lower our blood pressure through learning biofeedback. Meditation, a form of somatic quieting, can turn down the volume on our sympathetic nervous system.
- We need our stress response system to sensitively respond to real and imagined threats. It can save our lives, but if it is extended for too long, in too intense of a way, it can cause or at least contribute to chronic disease.
- How is this related to EQ? Remember the 4-branch model: perceive and express emotions, use emotions in thought, understand emotions, and regulate emotions in the self and others. One contrasting model that might be particularly important in predicting stress and coping is the Bar-On model that includes traits such as neuroticism.
- Recall that this model includes competencies such as intrapersonal skills (self-awareness and independence), interpersonal skills (developing empathy), adaptability (flexibly being able to solve problems), stress management, general moods (happiness and optimism), and traits such as extroversion or neuroticism.
- Just as there might be variability in the autonomic nervous system functioning, there's also variability in EQ. In fact, the mechanism through which we can improve our EQ might come through modifications of our stress response systems. You'll learn to be less reactive, so you're able to manage your emotions more effectively.

- Moïra Mikolajczak, Clémentine Menil, and Olivier Luminet showed that individuals high in trait EQ showed a smaller cortisol response to an experimental stressor: having to give a public speech. Furthermore, the effect held up with the big five personality factors controlled, suggesting that trait EQ was uniquely predictive of one component of the physiologic stress response.
- To measure stress, we can use self-report questionnaires. We can also use performance tasks, in which we engineer a situation and see how robust of a stress response an individual has. We can also use physiological measures to examine the heart, blood pressure, cortisol, or salivary alpha amylase as well as indirect measures, for example, of epinephrine from our sympathetic nervous system.
- The questionnaire that's most commonly used to measure stress is the Perceived Stress Scale, which asks you about events that might have occurred in the past month.
- The commonly used performance task is the Trier Social Stress Test, in which you're told in a laboratory setting that you need to give a public speech. You're hooked up to basic physiologic equipment and then walk next door into a big lecture hall, in which there is a hostile audience that finds you boring and uninteresting. You are lecturing on something you know nothing about. The situation is being manipulated to measure the reactivity and intensity of the stress response.

Meditation, a form of somatic quieting, can turn down the volume on your sympathetic nervous system.



- In a clinical setting, stress assessments are conducted through an interview. There is a 5-step process.
  1. How often have you felt nervous or stressed out in the past month?
  2. What's been causing you to feel stressed out? And is there anything else?
  3. How long has this been going on?
  4. How has the stress been affecting you? How has it affected your relationships, or your performance at work? Are there any other effects?
  5. What have you been doing to cope with this stressful situation? How well has that been working for you? How can others help you get through this difficult time? What would be most helpful for someone to do right now?
- Those 5 steps, which you can use for yourself or for someone else, are about frequency, cost, duration, impact, and coping. What works, what doesn't, and how can we help?
- There are a few important assumptions about stress. First, just because you're stressed doesn't mean you're not coping well. Second, some stress might be good. A little bit of fear, anxiety, or arousal gives you more focus, energy, and motivation, and developmentally, your experience of stress changes.

## Coping

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- There are 5 main coping tasks: decrease the harmful environmental conditions and increase prospects for recovery, tolerate adjustments to negative events, maintain a positive self-image, maintain emotional equilibrium, and continue satisfactory relationships with others.
- Coping is usually divided into 2 primary categories: problem-focused coping and emotion-focused coping. With problem-focused coping, we try to directly address or change the stressor.

Emotion-focused coping is often used when the stressor is simply not changeable, so no matter what you do, the stressor is still going to be there. The emotion-focused coping helps you feel less distressed.

- The most commonly used instrument for measuring coping is the Ways of Coping Scale from Susan Folkman and Richard Lazarus. It has 66 items, and it breaks coping into 8 different categories: confrontative, distancing, self-controlling, seeking social support, accepting responsibility, escape/avoidance, planful problem solving, and positive reappraisal.
- In terms of stress management, we need to develop the skills of accurate appraisals and optimal selection of coping strategies based on the controllability, resources, and importance of what's going on. We need to select both cognitive and behavioral strategies from a long menu of possibilities, keeping in mind what Folkman tells us about the healthiest ways of coping.
- If we were to create a coping menu, what would it include? Cognitively, it might include distracting oneself, challenging habits of mind, rethinking appraisals, and seeking perspective. Behaviorally, it might include seeking social supports and engaging in positive activities, physical exercise, or a balanced diet of different kinds of activities.
- In looking at summaries of the resilience literature, it appears that resilient people have 3 characteristics: a staunch acceptance of reality, a deep belief that life is meaningful, and an ability to improvise. You need the skill of emotional agility: Recognize your patterns, label your thoughts and emotions, accept your thoughts and emotions, and act on your values. This is similar to many of the classic EQ abilities.
- In a systematic review by Judith Johnson and colleagues that looked at resilience to emotional distress in response to failure, the goal was to better understand people that do not experience significant emotional distress when they fail.

- In 46 relevant studies reported in 38 papers, the strongest support was found for the factors of high self-esteem, a more positive attributional style, and lower socially prescribed perfectionism. Weaker but still significant evidence was found for factors of lower trait reappraisal, lower self-oriented perfectionism, and higher emotional intelligence—so a weak relationship for EQ.
- In 3 additional studies, higher scores on traits of EQ tend to be more positively correlated with adaptive coping styles and negatively correlated with maladaptive coping styles.
- In the end, the relationship between EQ and stress may really depend on how you define it. Trait models are clearly related, and ability models do seem to overlap with some basic coping skills. It's likely that learning to boost your EQ will have the added benefit of improving your ability to cope with stress.

### Suggested Reading

Antoni, Ironson, and Schneiderman, *Cognitive-Behavioral Stress Management*.

Greenberger and Padesky, *Mind over Mood*.

Satterfield, *Minding the Body*.

### Questions to Consider

1. Coping is typically divided into problem-focused and emotion-focused categories. But what about when we are grappling with a stressor (such as a loss or an illness) to better understand it? Shouldn't there be meaning-focused coping, too?
2. Do you think that millennials (young adults born after 1985) are more or less able to cope with stress when compared with their parents or grandparents? Does this have to do with their age or some larger generational effect?



## Lecture 20

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# Emotion Regulation Disorders

Despite advances in psychotherapies to treat conditions such as anxiety and depression, there remains a substantial percentage of patients who do not respond to treatment. One common characteristic between the often co-occurring disorders is heightened emotional experience—sometimes called neuroticism, emotional intensity, or high sensitivity. We see more—in terms of both intensity and duration—negative emotions or distress. This may reflect genetic or dispositional characteristics that heighten emotion responding, but this heightened arousal could also be due to other factors that are more amenable to change and reside specifically within the realm of emotion regulation.

## Distress Disorders

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- How do emotional problems arise? There are a number of different common features. First comes the category of experiential avoidance. The specific subtypes of avoidance include situational avoidance, the most common; cognitive avoidance, the “don’t worry about it” school of thought; protective avoidance, which includes perfectionism or overpreparation; somatic avoidance, where you’re trying to avoid a physical sensation within your body that might cause you anxiety; and substitution avoidance, where you’re doing something to pull your mind away from whatever’s scaring you.
- Why is avoidance bad? If you’re avoiding a situation, you may feel safe, but you’ve eliminated the opportunity for contextual learning and to find or build social support. Repetitive thought or perseveration is another shared feature of distress disorders. It might manifest in the form of pathological worry or depressive rumination.
- Other common features of distress disorders include response persistence, hostility or aggression, negative appraisals, emotional masking, and short-term focus.
- Although psychotherapies usually target a disease, such as depression or anxiety, the push to look at distress disorders more generally encourages us to look for maladaptive skills and to correct them as needed, whatever the diagnosis may be.
- Keep in mind the primary model of EQ we’ve been using: the Salovey, Mayer, and Caruso integrative ability model, also called the 4-branch model. The 4 branches are the ability to perceive emotion, use emotion (harness for cognition), understand emotion, and regulate emotion in the self and others.
- Also keep in mind James Gross’s model of emotion and how it can be used to categorize regulation strategies. This model

involves situation selection, situation modification, attentional deployment, cognitive reappraisal, and response modification.

- What might go wrong with people who have a psychological disorder? They might not be very good at selecting a particular strategy given the needs at hand. They might have a lower ability to do emotion regulation skills effectively. Given where they're starting, emotion regulation strategies might not work for them. There might also be some important neurobiological differences that make the task of emotion regulation more difficult.

## Anxiety Disorders

- The family of anxiety disorders is the most common type of psychopathology. Biological and psychological vulnerabilities convert increased emotional reactivity and intentional bias toward perceived threats and global tendencies to see emotions as aversive. Individuals in this family engage in avoidant processing and behavior.
- David Barlow, one of the founding fathers of the field of anxiety studies, talks about triple vulnerabilities for people with anxiety. First, they have a biological tendency to be more reactive to situations. Second, they most likely have had early life experiences that teach them that the world is unpredictable and dangerous. Third, they probably have current life stressors and/or learned experiences that push them further toward anxiety.
- Members of the anxiety disorder family include generalized anxiety disorder; social anxiety; specific phobias, such as fear of spiders or heights; post-traumatic stress disorder; obsessive compulsive disorder; and panic disorder. There is a disorder of emotional experiencing and maybe emotion regulation across all disorders in the anxiety family.

- As an emotion regulation strategy, suppression doesn't work in general but especially isn't helpful for someone with an anxiety disorder.
- There are 3 key emotion regulation strategies for people with anxiety disorders. The first is the necessity to more effectively use cognitive reappraisal, or think about the stimulus in a way that reduces emotional intensity. Second, they need to stay away from suppression; it occurs too late in the model pathway to be effective. Third, they need to think about more ways to accept the distress that they're having without trying to change or suppress it.
- What about links to EQ? Laura Summerfeldt and colleagues showed that trait EQ scores were low in 3 clinical anxiety groups, including panic disorder, obsessive compulsive disorder, and social anxiety, as measured by Reuven Bar-On's EQ-i. They also found that although patients with social anxiety were low in interpersonal EQ, they also had low levels of intrapersonal EQ, suggesting a possible problem with internal mood regulation.

## Mood disorders

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- The next family of psychopathology is the mood disorders—specifically major depression. Major depression is quite common, with a lifetime prevalence of about 20%. It's qualitatively different than just feeling sad. You have to meet diagnostic criteria in 5 of 9 hallmark symptoms, and it has to be present most of the day, nearly every day, for at least 2 weeks.
- Those hallmark symptoms include low or depressed mood, anhedonia (a difficulty in experiencing pleasure), disruptions in sleep, disruptions in appetite, low energy, low self-worth, and even thoughts about suicide.
- Depressed patients have the same triggers and same initial sad response as others, but they seem unable to repair their mood and often use strategies that extend the negative feelings, such



Disruptions in sleep is one of the hallmark symptoms of major depression.

as rumination. They also use negative reappraisals instead of positive reappraisals, and this also worsens their mood.

## ERT

- Emotion regulation therapy (ERT), developed by Douglas Mennin and David Fresco, is a relatively new therapy for distress disorders. This therapy rests in affective science, or more specifically, normative and disordered emotional processing and learning. It includes motivational mechanisms, regulatory mechanisms, and contextual learning consequences.
- ERT is designed to increase motivational, or mindful, awareness of emotional states; develop better regulatory capacities; and engage new contextual learning opportunities, or repertoires. It's usually done in about 16 weekly sessions, in which the individuals build skills in the first half and then apply them in the second half during exposure exercises.
- With distress disorders, we also see motivational dysfunction, or conflicting pulls from reward and safety threat systems that

are difficult to resolve. This may result from overreactivity to threat, insensitivity to rewards, or an accumulation of negative life events that have skewed perceptions of the world.

- ERT is meant to help with motivational skills training. For example, Henny Westra, Hal Arkowitz, and David Dozois looked at traditional cognitive behavioral therapy as compared to cognitive behavioral therapy plus a motivational intervention for patients who have generalized anxiety disorder. They found that the combined condition that added a motivational component had superior outcomes.
- ERT early on uses self-monitoring and behavioral analysis. With behavioral analysis, you want to understand your triggers, thoughts, feelings, and behaviors.
- A sample exercise is to catch yourself reacting, a self-monitoring exercise. Another exercise is a do-over, which is sort of a post-mortem on a mistake that you have made where you think about alternative steps and the cognitive or behavioral rehearsals.
- Another exercise is regulatory skills training, which assumes that we can be trained to be better at regulating our emotions. It includes attending, or sustaining your focus and flexibly moving your attention from one thing to another; allowing, or turning toward to remain in contact with an emotion; distancing, or being able to step outside of a feeling or thought and realize that it's different from you (decentering); and reframing, which is similar to the reappraisals that have been addressed in cognitive behavioral therapy.
- Examples of tools to build regulatory skills include mindfulness meditation, doing a 3-minute body scan, surfing the wave (where you just allow yourself to experience a feeling without trying to change it), and ABCD (which was addressed in lecture 8). Another strategy is mountain meditation, which is a way to distance yourself and give yourself some somatic quieting.

- If you're interested in how to measure your regulatory skills or if you have deficits in regulatory skills, you can use the Difficulties in Emotion Regulation Scale (DERS), which includes 36 statements of emotional competence rated on a 5-point scale from "almost never" to "almost always."
- The DERS focuses on negative emotions and has 6 subscales that include lack of emotional awareness, lack of emotional clarity, nonacceptance of emotional responses, difficulties engaging in goal-directed behavior, impulse control difficulties, and limited access to effective emotion regulatory strategies.
- All of these scales highly correlate with one another, so usually you just see one score for the DERS. Scores on this questionnaire correlate highly with depression, anxiety, suicidality, eating disorders, and alcohol and drug use.
- The ERT focuses attention on personal values and our most cherished priorities. It encourages us to take exposures in life but to direct those exposures depending on what we value most. This is very similar to acceptance and commitment therapy. If you're interested in more information on ERT, you can find it at [www.emotionregulationtherapy.com](http://www.emotionregulationtherapy.com).

## DBT

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- Another therapy that was designed specifically to address emotion dis-regulation is dialectical behavior therapy (DBT). The DBT skills fit into approximately 6 different categories: mindfulness and acceptance, distress tolerance, self-soothing, doing the opposite, emotion regulation, and interpersonal effectiveness.
- They make the general assumption that difficulties with emotion regulation are a consequence of biosocial interactions. Biological sensitivity interacts with aversive and/or invalidating experiences during childhood or adolescence. This leads to neurobiological dysfunction and insufficient skills in emotion regulation as an adult.

- DBT teaches emotion regulation but with more of a focus on regulation after an emotion has been generated. It distinguishes between experiential and expressive experiences and includes more on preexisting emotional vulnerabilities, both distal and proximate.
- Strategies for managing emotional vulnerability factors are thought to increase happiness and resilience and help individuals build a life worth living. These include scheduling daily pleasant events, building mastery, and coping ahead through rehearsal and imaginal exposure. There are also PLEASE skills: treating physical illness, balancing nutrition and eating, staying off non-prescribed mood-altering drugs, getting sufficient but not excessive sleep, and getting adequate exercise.
- There are a number of strategies that fit in situation selection and modification category. These include stimulus control, listing the pros and cons to guide a course of action, and problem-solving skills.
- For attentional deployment, strategies include mindfulness skills of observing, describing, and participating in the moment without judgment.
- There are a few biological or experiential change strategies called TIP skills, which include opposite action, intense exercise if arousal is very high, and paced breathing and progressive relaxation with “willing hands” and a half smile to promote serenity.
- There have been hundreds of studies validating DBT. Marsha Linehan and others have shown that DBT reduces suicidal behaviors, reduces substance abuse, lowers depressive symptoms, improves treatment adherence, and reduces the number of psychiatric hospitalizations. DBT has also been successfully used for eating disorders.

## Suggested Reading

Fresco, Mennin, and Heimberg, “Emotion Regulation Therapy for Generalized Anxiety Disorder.”

Leahy, Tirch, and Napolitano, *Emotion Regulation in Psychotherapy*.

Linehan, *Cognitive-Behavioral Treatment of Borderline Personality Disorder*.

—, *Skills Training Manual for Treating Borderline Personality Disorder*.

McKay, Fanning, and Zurita Ona, *Mind and Emotions*.

Mennin, “Emotion Regulation Therapy.”

Mennin and Fresco, “Emotion Regulation Therapy.”

Summerfeldt, Kloosterman, Antony, and Parker, “Social Anxiety, Emotional Intelligence, and Interpersonal Adjustment.”

Summerfeldt, Kloosterman, Antony, McCabe, and Parker, “Emotional Intelligence in Social Phobia and Other Anxiety Disorders.”

## Questions to Consider

1. Do you agree with the newer, global category of distress disorders? Why or why not? What are the implications of this new category?
2. Is it possible to ruminate in your sleep? If so, what can you do about it?



## Lecture 21

# Behavior Change and EQ

**B**ehavior accounts for more than 50% of premature morbidity and mortality, but behavior change interventions remain limited in their availability and effectiveness. Emotions and EQ might help us understand key factors such as motivation, procrastination, willpower, and personal choice. This lecture will explore the notion of long-term behavior changes. You will be introduced to some of the statistics on change rates and then learn about some of the leading models of change. From those models, you will identify core concepts—such as motivation and self-regulation—and discover what they really mean.

## Smoking

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- Smoking is the top contributor to premature mortality. In 1955, approximately 55% of men and 25% of women smoked. It wasn't until the first U.S. surgeon general's report in 1964 that we knew smoking was bad for you. Since that report came out, smoking has dropped to about 22% in men and 17% in women. However, those numbers have stayed essentially flat since the 1990s. Recent surveys show though that nearly 70% of smokers would like to stop and 52.4% have tried to stop in the past year.
- It takes the average smoker 4 to 5 different attempts to quit smoking. If smokers try to quit cold turkey, using no drugs or nicotine patches, they have about a 7% success rate. If they use nicotine replacement and/or medications, they have about a 30% success rate. There are now more ex-smokers in the United States than smokers.
- In 2007, Timothy Carmody published a comprehensive review of theories linking negative emotions to nicotine dependence and smoking cessation. He begins with the review of motivational mechanisms, with negative affect as a driver for first and continuing use. Next, he describes the role of emotion regulation, coping-skills deficits, depression, and anxiety sensitivity in explaining the relationship between negative emotions and smoking relapse—all very much in line with our EQ model. He concludes that although smoking cessation programs don't explicitly address EQ, nearly all include some elements of emotion regulation: coping with cravings, managing stress, and dealing with anxiety or depression.

## Obesity and Weight Loss

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- Much EQ-focused work has been done in the areas of obesity and weight loss, where it looks like emotion regulation may be a core, if not central, feature. How are we doing with nutrition, obesity, and weight loss?

- The old food pyramid is now gone. Instead, there is now something called Choose My Plate, which you can find at [www.choosemyplate.gov](http://www.choosemyplate.gov). It is a graphic of a round plate with a cup sitting next to it that provides a visual of the proportions of fruits, vegetables, grains, and proteins that you should be consuming with each meal.
- Essentially, half of your plate should be fruits and vegetables, with a quarter for protein and a quarter for grains. We should eat about 3 cups of vegetables and 2 cups of fruit every day. That's around 2000 total calories for the average person. We're supposed to limit simple carbohydrates, saturated fats, and sodium.
- We follow these recommendations only 2% of the time. And to count as a yes, you only had to be 70% compliant. The most commonly eaten vegetable is the potato—in the form of French fries or potato chips. Second is the tomato, in the form of ketchup or pizza or pasta sauce. Third is onions, and fourth is iceberg lettuce, which is mostly water.



- We're not doing too well with nutrition, but what about body weight? Body weight is typically measured with something called body mass index (BMI), which is simply your weight in kilograms divided by your height in meters squared. A normal BMI is between 20 and 25. Overweight is between 25 and 30, and obese is more than 30.
- An alternative to BMI is the waist-to-hip ratio, sometimes called the gut-to-butt ratio. You want it to be less than 0.95 for men and less than 0.80 for women.
- Currently, almost 70% of men and women over the age of 20 are considered overweight or obese, with a BMI of more than 25. About 36% are considered obese, so they have a BMI of more than 30. The rates of number of overweight and obese people have been rising dramatically over the past few decades.
- How well do dieting programs work? There's often a frustrating yo-yo pattern. You might lose a few pounds, but then you gain it back. You lose it again, but you gain it back. In fact, no diets actually work that well. The average amount of weight loss across all different kinds of diets is about 8%. The only exception to this is with surgery, where individuals can lose rather dramatic amounts of weight.
- What about physical activity? The Centers for Disease Control and Prevention recommend 2 hours and 30 minutes (150 minutes) of moderate-intensity aerobic activity, such as brisk walking, every week and muscle-strengthening activities that work all of your major muscle groups—legs, hips, back, abdomen, chest, shoulders, and arms—2 or more days a week. This is for adults of all ages.
- As of 2015, only about 1 in 5 adults meet these criteria, and less than 30% of high school students get even 60 minutes of physical activity per day. As with obesity, we're not doing so well. Clearly, something is going on.

- Keep in mind the biopsychosocial model. It's clear that the data we're seeing about health-related behaviors isn't just about personal choice. It's also about policies, public health, living in a toxic food environment, and chronic stress—many explanations.

## Emotion and Health-Related Behaviors

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- We need to consider the role of emotions in initiating negative behavioral choices and in maintaining those choices. We should also consider the role of emotions in promoting positive behavioral choices and in building motivation to change.
- In a 2015 paper by Enrique Fernández-Abascal published in *Frontiers in Psychology*, the research team looked at the Trait Meta-Mood Scale and a measure of EQ called the Trait Emotional Intelligence Questionnaire to see how they're related to health and health-related behaviors in general. EQ more strongly predicted mental health compared to behavioral health, but particular EQ subscales—such as emotionality, repair of emotions, and self-control—predicted health-related behaviors, especially preventive, positive health behaviors.
- The Mayer-Salovey-Caruso Emotional Intelligence Test predicts the lower use of tobacco and alcohol in adolescents with a correlation of around  $-0.16$  to  $-0.19$ . In another study, the MSCEIT predicts alcohol use in college men but not in college women, nor does it predict drug use.
- A 2016 study by Mirja Görlach and colleagues looked directly at the relationship between emotion suppression and overeating in normal-weight and obese patients. They found that while suppression was tied to overeating in both groups, the effect was particularly pronounced in obese patients, where a pattern of overeating had already been established.
- It could be hypothesized that one function of overeating was to serve as an attentional deployment tool. Food became a



way to suppress an emotional experience. It looks like emotions and even EQ do play a role, but we'll need to drill down a bit to understand those relationships.

## Goals

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- To understand motivation, you have to understand goals. A goal is a cognitive representation of a desired endpoint. You picture in your mind what you want to accomplish—in this case, maybe eating better or exercising more.
- When discussing emotion regulation, we discussed emotion responses as the endpoints—for example, being less reactive or less depressed. Here, we refer to behavioral outcomes as the endpoints, but emotions are still important mediators that influence success.
- We will have superordinate goals, such as “I want to be healthy”; intermediate goals, such as “I want to exercise more”; and subordinate goals, such as “I want to eat fewer calories and

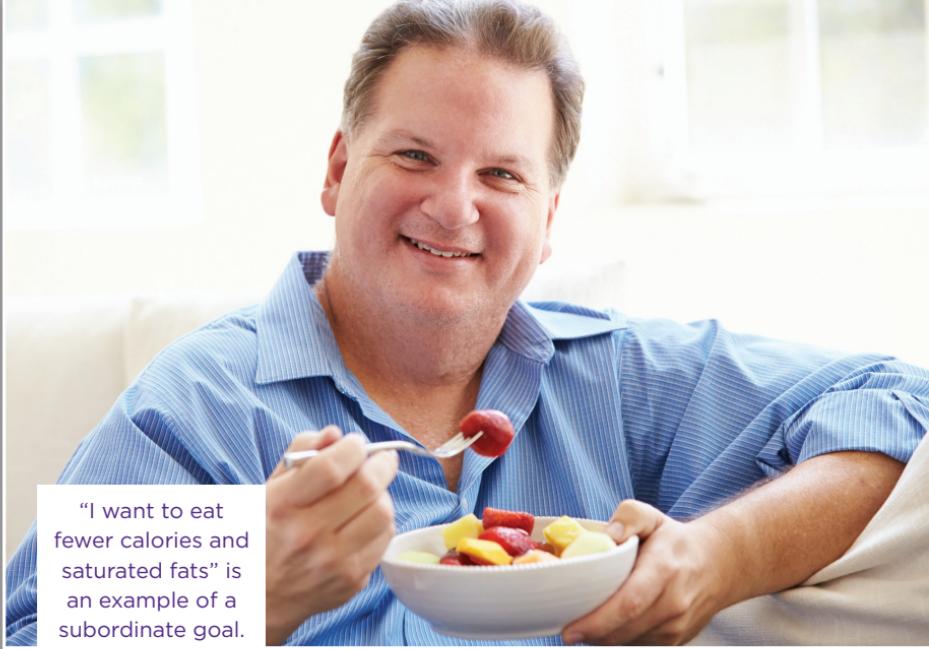
saturated fats.” Each level may evoke emotions, sometimes of different intensities or even different valences.

- It is important to set realistic, SMART goals—goals that are **s**pecific, **m**easurable, **a**ttainable, **r**elevant, and **t**imely.

## Motivation and Self-Regulation

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- Motivation is the activation of goal-directed behavior. It may be intrinsic, coming from inside yourself, or extrinsic, coming from outside sources.
- There are 3 key components that determine motivation.
  - **Importance/value.** If you see your behavior change as important, that means you'll have more motivation to do it. We tend to forget what our goals and values are because we get so busy, but we need to keep these ideas fresh and in the front of our mind.
  - **Self-efficacy.** This is the belief that one is capable of performing in a certain manner to attain certain goals. People with high self-efficacy are more likely to view difficult tasks as something to be mastered rather than something to be avoided. High self-efficacy predicts smoking cessation, physical exercise, dieting, condom use, dental hygiene, seatbelt use, and breast self-examination.
  - **Social context.** The first part of social context is your social support network, or the social circles in which you find yourself. Health-related behaviors are highly influenced by the people around us. The second part of social context is the social environment that we have around us. This isn't entirely in our control, but we engineer our environment to remove temptations or triggers whenever possible. This is a skill called stimulus control.
- What do you need to change? In addition to having goals and motivation, you need core skills, especially self-regulation, and an



achievable action plan. Also think about support and environmental help. You don't have to do this completely on your own.

- To be a good self-regulator, you need to start with a goal and have the capacity for self-observation, which involves gathering data about yourself. You also need self-evaluation. What ruler are you going to use to measure your success or performance? You also need self-reaction. What are your strategies to control your behavior? Are there rewards or punishments? Negative emotions have a pernicious ability to act on all of these elements of self-regulation.
- To better improve our self-regulatory skills, we need reasonable goals as a starting point, followed by a review of our motivational drives. To beef up our self-regulatory capacity, we need to put some self-monitoring in place. To do that, we not only need a plan, but we also need heightened but nonjudgmental self-awareness.

## Action Planning

- To set up an action plan, you first need SMART goals, followed by obtaining the necessary resources, such as supplemental tools, medications, and gym memberships. Next, you create the detailed plan with steps.
- Some of the elements of a good action plan include establishing a start date, sharing your plans with others in your social circle, instituting regular assessments and reevaluation dates, anticipating obstacles, expecting setbacks and lapses, and using regular consultations to adapt your plan with yourself or with others. You can also add implementation intentions, which link situations to specific goal-directed behaviors.
- You will mess up. You want to prevent the abstinence violation effect, where you give yourself a great deal of harsh criticism. You want to reframe slips or lapses as something that normally happens and frame them as an opportunity to learn and grow.
- From a cognitive behavioral theory perspective, you want to do a behavioral analysis. A slip happened, learn from it, use the ABCDs—antecedents, behaviors, consequences, and if necessary, disputes—to help move forward.
- Don't forget about positive appraisals. It's not just about regulating the negative; it might be about generating positive emotions to help you manage stress.

### Suggested Reading

Beck, "The Beck Diet Solution."

Duhigg, *The Power of Habit*.

Kessler, *The End of Overeating*.

McGonigal, *The Willpower Instinct*.

## Questions to Consider

1. How is willpower related to emotions? Can we regulate our emotions in a way that will improve our willpower?
2. Which works better to promote behavior change: anger or love? Under what circumstances would you want one versus the other?



## Lecture 22

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# Chronic Disease and EQ

**B**y 2020, the number of Americans living with a chronic disease is expected to reach 157 million, but many important opportunities for chronic disease management are missed. Emotions play a key role in accepting and responding to a medical diagnosis, and EQ skills could potentially improve and prolong life. In this lecture, you will learn about the epidemiology of chronic disease and the role of emotions as both a contributing cause and a possible intervention. You will also learn about 2 common but quite different chronic diseases—alcohol use disorder and cardiovascular disease—and discover both research and interventions using EQ concepts.

## Chronic Disease

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- The leading causes of morbidity and mortality have shifted dramatically over the past 100 years, from acute infectious illness, such as pneumonia, typhoid, and influenza, to chronic diseases, such as cardiovascular disease, cancer, and lung disease.
- These new causes of morbidity and mortality all have deep social and behavioral roots, such as smoking, diet, exercise, stress, and the excessive use of alcohol and drugs. Fortunately, there are often early warning signs, and we know a great deal about risk factors, such as high blood pressure, high cholesterol, and tobacco use.
- To take advantage of our growing medical knowledge, we have to be emotionally prepared. We need regular screening tests, and we need to monitor our diets, get more exercise, be healthier—the list goes on and on.
- But we are not that great at health-related behaviors, including medical adherence. We're even worse when it comes to accepting a diagnosis and doing what we need to do to slow the advancement of a chronic disease. One family of interventions that falls into the EQ or emotion regulation category could help.
- The EQ literature suggests a number of possible pathways linking EQ and physical health. First, EQ facilitates positive health practices. In particular, high-EQ individuals are more likely to maintain proactive self-care practices, such as regular exercise, healthy diet, and safe sex.
- These practices require the capacity for delayed gratification and strong executive functioning over the limbic system—better known as self-regulation. This should similarly affect help-seeking behaviors and health maintenance, such as keeping doctors' appointments, getting vaccinations, and taking medications.
- Second, research by Peter Salovey and colleagues suggest that the lower stress reactivity associated with EQ may be a potential

mechanism linking emotional competence and functioning with health outcomes. By now, you've learned a great deal about the relationship between EQ and stress, including how emotion regulation skills can help us lower our reactivity.

- Third, EQ may work through richer coping resources and more adaptive coping behaviors. Recall Susan Folkman's work with the Ways of Coping Scale and the superior outcomes seen with positive reappraisals and planful problem solving—2 strategies found in the repertoires of people with high EQ. Moreover, there is emerging evidence that high-EQ individuals have stronger social support networks and may therefore enjoy greater social support that can be relied on in times of stress or illness.
- Two meta-analytic studies help prove the link between EQ and health. Nicola Schutte and colleagues found that EQ and physical health were correlated at about 0.22. Alexandra Martins and colleagues looked at studies of physical and psychosomatic, or mental, health. In 12 studies of physical health, the correlation with EQ was .27; in 16 studies of psychosomatic health, the average correlation was .33.
- The possible mediators that help us understand this linkage between EQ and health are greater use of proactive self-care practices, lowered stress reactivity, better self-regulation for health-related behaviors, fewer negative health-related behaviors, superior coping mechanisms, and better social supports.
- As we consider the role of EQ in chronic disease, it is important to remember that these diseases often take a long time to develop and to progress to disability or death. This means that the emotional tasks and challenges will vary depending on where you fall on the disease trajectory.
- In the early stages, there's often a sense of invulnerability or denial. People in this stage either have little emotional reaction or actively use suppression. As evidence to the contrary accumulates, we are then forced to make both cognitive and emotional changes. We



must change our self-concept. We are no longer a healthy person; we have a new identity, a new group to which we belong.

- This may evoke a host of feelings that are best experienced and understood—skills that are central to our EQ model. As the disease progresses, there are new stressors: You may lose energy and stamina, develop chronic pain, or gain weight or see other unwanted changes to your appearance.
- All of these events pose new emotional challenges. Will we seek social support? Will we use appropriately matched coping skills? We will be able to retain our sense of meaning and values if we no longer feel like ourselves?
- And when we get to the beginning of the end of life, how will we approach it? How will we honor and complete our relationships? Dying from a chronic disease often gives you time to say goodbye—to do the hard emotional work of letting go. When thinking about this trajectory, it's easy to see how and why emotions might be so central.

## Alcohol Use Disorder

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- Alcohol use disorder is the new term for alcohol addiction or alcoholism. The prevalence nationwide is around 7.2%. The rates tend to be double in men versus women, with about 10% in men and 5% in women. Approximately 3% of older adults meet full criteria for an alcohol use disorder.
- An alcohol use disorder is a problematic pattern of alcohol use leading to clinically significant impairment or distress. It's based on criteria from the fifth edition of the Diagnostic and Statistical Manual for Mental Disorders (DSM-5). Anyone meeting any 2 of the 11 criteria during the same 12-month period receives a diagnosis of alcohol use disorder. The severity of the disorder—mild, moderate, or severe—is based on the number of criteria met.
  1. Alcohol is often taken in larger amounts or over a longer period than was intended.
  2. There is a persistent desire or unsuccessful efforts to cut down or control alcohol use.
  3. A great deal of time is spent in activities necessary to obtain alcohol, use alcohol, or recover from its effects.
  4. Craving, or a strong desire or urge to use alcohol, is present.
  5. Recurrent alcohol use results in a failure to fulfill major role obligations at work, school, or home.
  6. There is continued alcohol use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of alcohol.
  7. Important social, occupational, or recreational activities are given up or reduced because of alcohol use.
  8. There is recurrent alcohol use in situations in which it is physically hazardous.
  9. Alcohol use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by alcohol.
  10. There is the development of tolerance; you need more and more alcohol to have the same effect.

11. There is withdrawal. If you suddenly stop drinking, you'll have perhaps severe physiologic symptoms that could include seizures or even death.

- To meet diagnostic criteria for an alcohol use disorder, you need 2 to 3 symptoms for a mild disorder, 4 to 5 for a moderate disorder, and 6 or more for a severe disorder.
- With treatment, about 70% of people with an alcohol use disorder can drink less, but relapse is common, around 90%. Outcomes hinge on many different factors, including income or resources for treatment, having social supports that don't drink or drink very little, and a willingness to make sometimes-drastic lifestyle changes.
- On average, alcoholism reduces life expectancy by 10 to 12 years. Medical complications include hypertension, stroke, cardiomyopathy, cirrhosis, pancreatitis, and an increase in certain kinds of cancer. But alcohol use disorder doesn't just affect the person drinking; it can have devastating effects on significant others, family, and friends.
- In general, we can divide treatment for alcohol use disorder into 3 phases.

An alcohol use disorder is a problematic pattern of alcohol use leading to clinically significant impairment or distress.



- **Detoxification.** We want an individual to be able to safely withdraw from alcohol.
- **Recovery.** A lot of emotion regulation training is necessary as the individual learns how to live his or her life without use of the substance.
- **Relapse prevention.** The individual could be sober for a month or more. How is he or she going to go back into the real world and not have a relapse?

- The most commonly used forms of treatment for substance use disorders are the 12-step program, or AA, which involves peer-to-peer group counseling sessions that are free. Another common treatment is cognitive behavioral therapy. Another one is mindfulness-based relapse prevention, developed by Alan Marlatt and Sarah Bowen, which is similar to third-wave therapies, such as mindfulness-based cognitive therapy or acceptance and commitment therapy.

## Cardiovascular Disease

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- Hostility, especially cynical hostility in men, is associated with having a first heart attack. The damage that hostility causes begins early and usually takes decades to really matter. But there is something we can do about it. If you or your loved one might be in the top quintile of people who are angry, there is hope. Personalities don't change, but we can learn to better manage our emotions.
- The first study to demonstrate this was the Recurrent Coronary Prevention Project published by Meyer Friedman in the *American Heart Journal* in 1986. It was a 4.5-year randomized, controlled trial of more than a thousand men who had just had a myocardial infarction.
- Friedman compared 3 different types of treatment: usual care, generic group counseling, and a type-A modification group. In the

type-A group, they taught anger management skills and somatic quieting and engineered exposures to practice those calming skills.

- In the usual-care group, cardiac recurrences occurred at 28.2% over 4.5 years. In the generic group, there was a 21.2% recurrence of cardiac events, and in the type-A group, recurrence was only 12.9%.
- A study published by James Blumenthal in the *Archives of Internal Medicine* in 1997 was a randomized, controlled trial of 107 patients with ischemic heart disease treated with 4 months of exercise versus stress management versus usual care. Researchers analyzed further cardiac events at a 3-year follow-up. There were further cardiac events in 21% of the exercise group and in 30% of the usual-care group, but in only 9% of the stress management group.
- In 2010, Mats Gulliksson published a randomized, controlled trial of 362 patients with chronic heart disease. He followed them for 94 months. There were 5 key components in his intervention that spread over 22-hour groups: education, self-monitoring, skills training, cognitive restructuring, and spiritual development. He found that the adapted cognitive behavioral therapy group had 41% lower rates of both fatal and nonfatal heart events, 45% fewer recurrent heart attacks, and a significantly lower rate of death than patients in the traditional-care group.
- It seems that many of our usual tools, especially those in cognitive behavioral therapy and stress management categories, are effective in treating cardiovascular disease and reducing cardiac events. While cognitive behavioral therapy is more than just emotion regulation, it exerts much of its power by giving individuals tools to lower stress reactivity and to manage stress better once it does occur. Cognitive behavioral therapy can also help us with situation selection and modification, attentional deployment, and cognitive reappraisals.

- Cognitive behavioral therapy is one of the more common treatments for managing anger in yourself, particularly if you have cardiovascular disease, but there are a few key adaptations. There is heightened focus on 2 habits of mind—personalization and magnification—and more practice in calming skills, or somatic quieting.

## Suggested Reading

Bowen, Chawla, and Marlatt, *Mindfulness-Based Relapse Prevention for Addictive Behaviors*.

Carroll, Ball, Martino, Nich, Gordon, Portnoy, and Rounsaville, “Computer-Assisted Delivery of Cognitive Behavioral Therapy for Addiction”.

Lorig, *Living a Healthy Life with Chronic Conditions*.

Satterfield, *Minding the Body*.

## Questions to Consider

1. Does low EQ increase the risk for developing a chemical addiction? How? Would training someone to have higher EQ help support his or her sobriety? Do groups such as AA influence EQ?
2. How does having a chronic disease affect your ability to perceive or express emotion, understand emotion, and manage emotion in yourself or others? Could it make your EQ skills stronger?



## Lecture 23

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# Emotional Intelligence in Health Care

This lecture takes an inside look into the health-care system to see how and when emotions enter the picture and influence your health care. The lecture will focus on the fallible, emotional human beings that provide health care and the people who receive it. You will be introduced to some newer models of how health care might be provided and what your role might be, and you will discover how to get the most out of your medical encounters.

## Emotions in Medical Visits

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- In 2010, Sonal Arora and colleagues conducted a systematic review of 16 articles. In these papers, the EQ of doctors was assessed, along with other quality variables. Six of the 7 studies that looked at gender differences found that women doctors have higher EQs than male doctors. Higher EQ was reported to positively contribute to the doctor-patient relationship, increased empathy, teamwork and communication skills, and stress management, organizational commitment, and leadership—all broad and important effects.
- A study of 277 nurses looked at the relationship between scores on the EQ-i and the use of different conflict-management strategies. It found that, on average, nurses prefer to avoid conflict, but if that doesn't work, they try domination and assertion of authority. Those higher in EQ, however, are more likely to negotiate, compromise, or oblige requests. We don't know the EQ of the patients or staff they were in conflict with, but remember that it is always a 2-way street.
- A fascinating and highly influential study of emotional clues during medical encounters was done by Wendy Levinson and published in the *Journal of the American Medical Association*. In this study, she audiotaped medical visits of primary care patients versus surgical consultation visits. She and her team then listened to the tapes to find emotional clues.
  - These clues offer a glimpse into the inner world of patients and create an opportunity for empathy and personal connection. By exploring the meaning of these clues for patients, physicians can deepen the therapeutic relationship and potentially enhance clinical outcomes.
  - The stereotype of surgeons is that they are cold and aloof while primary care physicians are more interested in relationships even though they are overworked. Levinson found that greater than 50% of all patient visits, in both categories, had some sort of

emotional clue that was brought up, and patients initiated those clues 70% of the time. While 38% of the surgeons responded to emotional clues, only 21% of the primary care doctors responded to emotional clues. Furthermore, she found that visits with missed cues actually took longer.

- Nurses and physicians—especially primary care physicians—have extraordinarily high levels of both occupational stress and burnout, and we now know that EQ plays a role.
- At the University of California, San Francisco, researchers gave medical residents the Schutte Self-Report Emotional Intelligence Test and measured their burnout with a variant of the Maslach Burnout Inventory every month. They also collected performance data from ratings of their faculty preceptors. They found that EQ was related to both burnout and performance. They also discovered that over the course of a year, their EQ actually increased. This might be a function of the EQ measure that was used, or it might reflect learning and growth from the intense year they had.

## The Chronic Care Model

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- Medical visits are hotbeds for emotions, and the EQ skills of providers matter. But the context in which health care is delivered—the structures or mandated processes—are also important, as they give us our choices. Are there any indications that a new paradigm is taking hold?
- The Chronic Care Model is an interesting model specifically developed for the collaborative management of chronic disease, a key feature of which is patient activation and support for self-management. The model has 6 components for integrated health-care delivery: organizational support, clinical information systems, delivery system design, decision support, self-management support, and community resources.



- According to David Barlow and colleagues, self-management is “the individual’s ability to manage the symptoms, treatment, physical and social consequences and lifestyle change inherent in living with a chronic condition.” This includes many of the skills and emotion regulation strategies that were covered in lecture 21 on behavior change and lecture 22 on chronic disease.
- The Chronic Disease Self-Management Program, an impressive program of research from Kate Lorig at Stanford, is a workshop given 2.5 hours once a week for 6 weeks in community settings such as senior centers, churches, libraries, and hospitals. People with different chronic health problems attend together and are facilitated by 2 trained leaders, one or both of whom are non-health professionals with chronic diseases themselves.
- Topics covered include techniques to deal with problems such as frustration, fatigue, pain, and isolation; appropriate exercise for maintaining and improving strength, flexibility, and endurance;

appropriate use of medications; communicating effectively with family, friends, and health professionals; nutrition; decision making; and how to evaluate new treatments.

- Each participant in the workshop receives a copy of the companion book, *Living a Healthy Life with Chronic Conditions* (fourth edition), and an audio relaxation CD.
- More than 1000 people with heart disease, lung disease, stroke, or arthritis participated in a randomized, controlled test of the program and were followed for up to 3 years. They looked for changes in health status, health-care utilization, self-efficacy, and self-management behaviors.
- Subjects who participated in the program, when compared to those who did not, demonstrated significant improvements in exercise, cognitive symptom management, communication with physicians, self-reported general health, health distress, fatigue, disability, and social/role activities limitations. They also spent fewer days in the hospital, and there was a trend toward fewer outpatient visits and hospitalizations.
- The Chronic Care Model also includes shared decision making, which is the collaboration between patients and providers to come to an agreement about a health-care decision. It is especially useful when there is no clear “best” treatment option. The provider should first elicit your decision-making preferences and then clarify the decision at hand. Remember that the decision is yours. Your doctor may not agree, but he or she is only a consultant.
- A few studies completed at the University of California, San Francisco, and Stanford found that shared decision making is rare and that most doctors don't know how to do it. They developed a training program and have data that shared decision making works, but they don't yet know whether shared decision making as they have taught it improves clinical outcomes. There is a vast shared-decision-making literature, and the jury is still mostly out.

## Getting the Most out of a Medical Visit

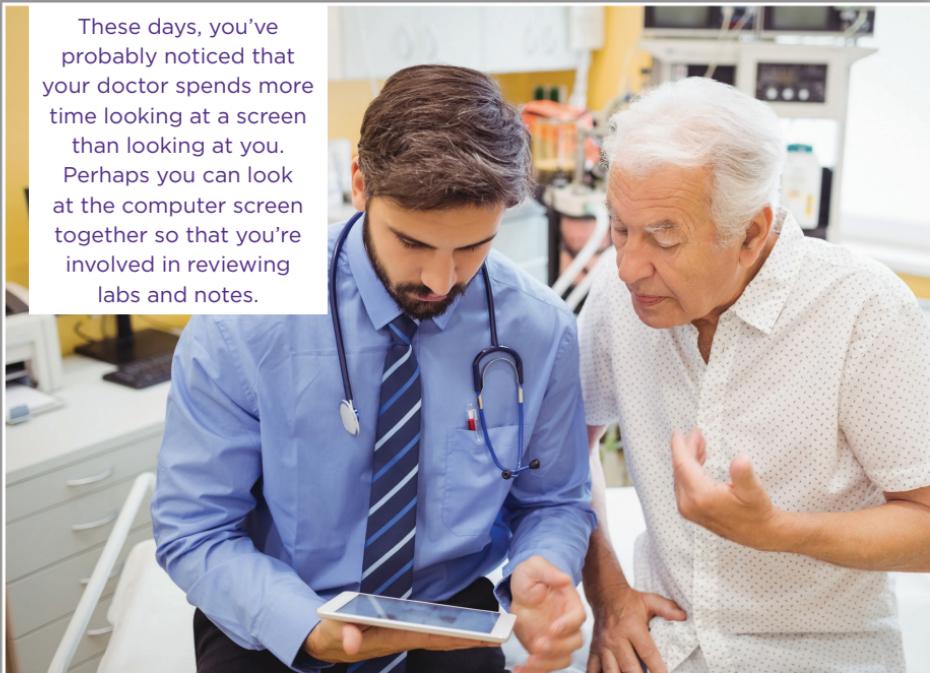
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- To get the most out of a medical visit:
  - Prepare.
  - Make sure the office knows a little about your reason for setting up an appointment so that they can schedule a proper amount of time.
  - Decide on what your top few goals are before the visit and write them down.
  - Make a list of all of your medications, herbal supplements, and over-the-counter products, or just bring them all in a bag to your appointment.
  - Invite a friend or family member to come with you.
  - Keep a journal of any worrisome symptoms, and be sure to write down any questions or concerns you have in advance—and prioritize them.
- During the visit:
  - Set an agenda at the beginning.
  - Ask questions; don't be afraid.
  - Before you end, repeat back your understanding of the diagnosis and plan.
  - Get follow-up instructions.
  - Make sure you know how to reach out again if you have questions.
- Unfortunately, this good, practical advice is often not followed. This is partly because patients are worried, scared, and distracted and feel disempowered or intimidated. But that power is yours. The doctor holds the prescription pad and is the one that orders tests, but he or she works for you. Your feedback, satisfaction, and EQ skills in managing the emotions of your physician and health-care team matter.
- It is not your job to take care of your doctor or nurse, and don't behave in a disingenuous or manipulative way, but think

about what emotions your doctor might be having and what strategies you might use to get the best performance out of him or her. You'd be surprised how rarely patients offer a word of appreciation or recognition that the doctor is overloaded and how effective they might be in strengthening your connection.

- The electronic health record is a relatively recent addition to most medical encounters—one that can greatly alter the emotional tone and opportunity for connection. It's efficient and some say effective. It varies by practice, but for the most part, you've probably noticed that your doctor spends more time looking at a screen than looking at you. What can you do about this?
- Take charge. Let your doctor know that you empathize with his or her predicament and are ready to find a flexible solution. Perhaps you can look at the computer screen together so that you're involved in reviewing labs and notes. Fortunately, doctors are coming to better recognize the deep emotional impacts of having a disease. They want to know what matters to you and how.

These days, you've probably noticed that your doctor spends more time looking at a screen than looking at you. Perhaps you can look at the computer screen together so that you're involved in reviewing labs and notes.



## Suggested Reading

Arora, Ashrafi, Davis, Athanasiou, Darzi, and Sevdalis, "Emotional Intelligence in Medicine."

Feldman, Christensen, and Satterfield, *Behavioral Medicine*.

Lorig, *Living a Healthy Life with Chronic Conditions*.

McKay, *Guide for Consumers in Identifying Scientifically Sound Therapists*.

Stanford Letter Project, <https://med.stanford.edu/letter/friendsandfamily.html>.

## Questions to Consider

1. Which group do you think tends to have higher EQ: doctors or nurses? Is this a function of their training, or do they self-select into that profession?
2. Where do all of the emotions generated during work go at the end of the day? Consider a doctor or nurse who may see more than 20 patients per day. How can he or she be emotionally present with patients all day and then go home?



## Lecture 24

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# The Future of Emotional Intelligence

In this final lecture, you will learn about exciting up-and-coming applications of EQ, new subtypes of intelligence, cutting-edge research, and new technological tools that are intended to make us more emotionally intelligent. This lecture looks ahead to see where EQ may be headed and the promise it holds for the future.

## Technology Tools

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- Technology—in part a rapid and efficient but low-bandwidth form of communication—has the potential to impact the development and use of EQ. Jennifer Aaker from Stanford, a coauthor of *The Dragonfly Effect*, analyzed 72 studies performed on nearly 14,000 college students between 1979 and 2009 and found a sharp decline in empathy. Young adults have become desensitized to the suffering of others, given how much they see online on a daily basis.
- When asked about Facebook and EQ, Daniel Goleman talks about weak links—virtual friends—and strong links—close friends. The worry is that Facebook provides enough weak links that we don't bother to build stronger links. As with any tool, it depends on how you use it. If it becomes a tool to initiate more meaningful relationships, then use it. If it becomes a tool to catalyze a social movement, then use it. We shouldn't blame the tool if we don't fully realize its potential. The same could be said for a television or even a radio.
- We've all seen or experienced or maybe even perpetrated the infamous email flame, or the dysregulated expression of rage via email. There's usually a trigger, and underneath all the verbiage and intensity is a message, but it's too intense and probably has unintended consequences. These flames are particularly easy to do because there is not another person in front of you. The best strategy is to never write or send emails when angry. If that can't be avoided, turn off your Wi-Fi connection and write whatever you need to write. Later, reread it before you turn your Wi-Fi back on.
- We've all misread the tone of emails and struggled with the expression and perception of emotion in emails. The simple solution is to stop sending email that has a necessary emotional component. Email is not for expression of emotions; it is for conveying basic factual information. If it is emotional, pick up the phone or use Skype or FaceTime.

- Recall the modal model of emotions: situation, attention, cognitive appraisal, and emotional response. Technology creates new triggers, new situations. This is neither good nor bad, but it does affect the scope of exposures that might trigger an emotion. For emotion regulation—situation selection or situation modification—we need to take control of when, where, and how technology is invited into our lives.
- From an attentional deployment perspective, we need to be very concerned about the level of distraction that children now have to deal with. Are we training a generation that can't pay attention to something longer than a 3-minute YouTube clip? The mind needs to be trained, including attention. Are we handicapping ourselves and our children?
- Fortunately, social and emotional learning programs have taken off in schools. Maybe what children have lost via social media and technology can be replaced with social and emotional learning training—or maybe that training could incorporate electronic games or simulations to hook interests and fuel learning further. There's really no data on social media, technology, and EQ, but it's likely around the corner.

Maybe what children have lost via social media and technology can be replaced with social and emotional learning training.



## Virtual Reality

- Virtual reality headsets can be very immersive and exciting. The goal is to shut out other sensory stimuli and replace them with a world created by the programmers. In psychotherapy, virtual reality is being used as a convenient way to deliver exposure therapy.
- For example, a spider-phobic person puts on a virtual reality headset and slowly views increasingly more realistic-looking spiders while practicing distress-tolerance skills and somatic quieting. He or she hasn't left the comfort of home but is actively working on improving his or her emotion regulation skills.
- In a study by Barbara Rothbaum in the *Journal of Clinical and Counseling Psychology*, group of patients with an intense fear of flying were recruited. One-third got virtual reality, one-third got standard exposure therapy, and one-third got nothing. Both the virtual reality and standard treatment showed dramatic effects, and after a year, 93% of those groups had flown.



- What does the future of virtual reality mean in terms of EQ—the perception/expression, facilitation/use, understanding, and regulation of emotions? The range (and intensity) of potential situations or triggers will be exponentially increased—which could be either good or bad. The potential modifications to each situation are essentially endless, and this has tremendous implications for emotional regulation.
- In terms of teaching response modification, learning to upregulate or downregulate an emotion once it occurs, virtual reality has tremendous potential. It feels real, so it generates real physiologic responses, which you then have an opportunity to try to control—via suppression, somatic quieting, or another strategy.

## Affectiva

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- Affectiva, an MIT spin-off located in Waltham, Massachusetts, builds a variety of products that harnesses the 2 main characteristics of facial expressions—robustness and universality—to measure and analyze emotional responses.
- Affectiva's cofounder and CEO tells us that emotion is missing from all of our digital devices and needs to be added. Her company has added an emotion artificial intelligence platform that captures emotion data points from users and then uses emotion analytics to derive insights as well as design real-time experiences that adapt to human emotion in the moment.
- Their devices use computer vision to assess facial expression and read emotion using machine learning. For instance, they use your webcam on your laptop to watch you as you watch an advertisement or video. They can measure your emotional response to grade the effectiveness of the commercial. They will eventually automatically adjust what you are watching until it evokes the desired emotional effect.

- In the clinical realm, you can allow your smartphone camera to watch you and they claim to be able to assess changes in depression, pain, and anxiety between your physician visits. Alternatively, they have invented a device—at \$2000—that is sort of like a Fitbit for your mood. It uses psychophysiological measures to assess your emotions.

## Smartphone Apps

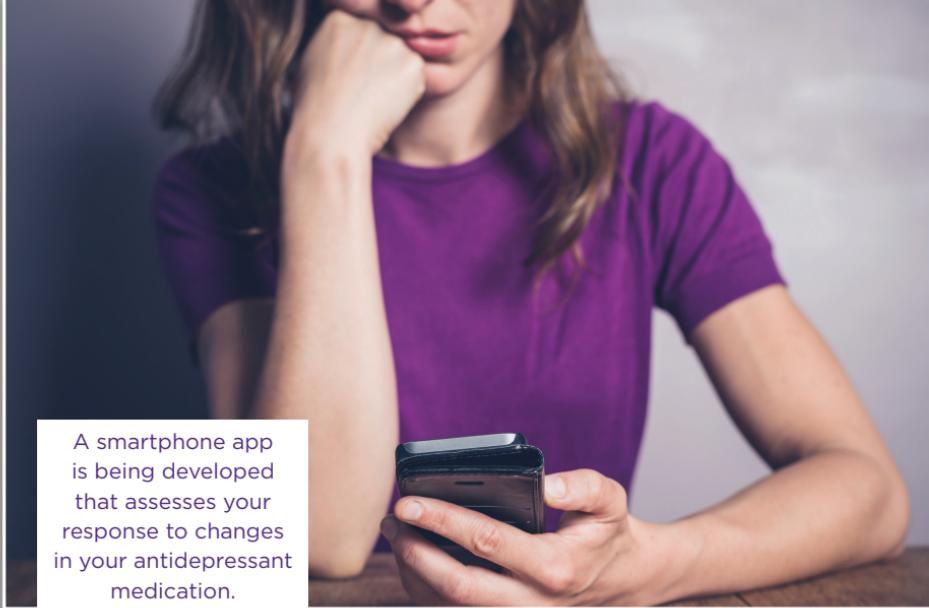
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- A group at the University of California, San Francisco, funded by the California Initiative to Advance Precision Medicine is collaborating with computer science and medical colleagues at UC-Berkeley and UC-Davis to create a smartphone app that assesses your response to changes in your antidepressant medication. They use daily photographic-affect-meter assessments and also collect GPS data on movement.
- Based on algorithms derived from David Mohr's group at Northwestern, they can look for telltale signs of improving or worsening depression by analyzing where you go, when you go, and how long you stay. They look at overall activity levels and any deviations from your usual patterns. Ultimately, they are trying to provide more frequent, higher-quality feedback to primary care physicians so that they can best adjust patients' antidepressants.

## Smart Architecture

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- What if our environments could perceive our emotions and respond accordingly? Picture this seemingly futuristic scenario: After a stressful day at work, you enter your house and walk toward the kitchen. Your emotionally intelligent home is sensing your heart rate and body temperature. Your home security cameras are zooming in on your face and analyzing your facial expression. The house also notes how heavy your steps are and how tense your posture seems.



A smartphone app is being developed that assesses your response to changes in your antidepressant medication.

- Before you reach the kitchen, the lights have been adjusted with a touch of rose to warm things up, the air circulation system is now adding lavender vapor to add a relaxing aroma to the air, soft music switches on, and a cup of chamomile tea starts brewing. As you sip your tea, your high-EQ home re-senses your mood to see if its interventions have done the trick.
- A prototype of this house has been created by Antonio Fernández-Caballero and his team and is called smart architecture. It includes 3 key features: emotion detection, emotion regulation, and emotion feedback control. The technology is still quite new and still evolving, but the applications are almost endless.

## New Types of Intelligences

- In this course, you have learned about several different types of intelligences: IQ, EQ, and even social intelligence. Each theory offers an important lens through which to view the world. Each also potentially offers interventions to help those who might need to develop more social or emotional skills.

- A few new types of intelligences are on the horizon, including spiritual intelligence and ecological intelligence. The term “spiritual intelligence” was coined by Danah Zohar and relies on the concept of spirituality being distinct from religiosity. Twelve principles underlie spiritual intelligence, including self-awareness, spontaneity, compassion, humility, tendency to ask fundamental “why” questions, and having a sense of vocation.
- Robert Emmons defines spiritual intelligence as “the adaptive use of spiritual information to facilitate everyday problem solving and goal attainment.” He originally proposed 5 components of spiritual intelligence: the capacity to transcend the physical and material, the ability to experience heightened states of consciousness, ability to sanctify everyday experience, ability to utilize spiritual resources to solve problems, and capacity to be virtuous (which was later dropped).
- All spiritual intelligence assessment measures are self-report so are vulnerable to faking. Scales include the SQ21 and the Scale for Spiritual Intelligence for use in adolescents.
- Ecological intelligence was described in a 2009 book by Daniel Goleman, who discloses the hidden environmental consequences of what we make and buy and how “radical transparency” will enable consumers to make smarter purchases.
- It’s a recognition that our culture pushes us to mindlessly buy and acquire without considering the impacts this might have on the environment—and we do all this purchasing without acknowledging the effects it will or will not have on our mood.
- We don’t know whether ecological intelligence is really an intelligence or a set of abilities. Nonetheless, Goleman makes a compelling argument for heightened awareness and sensitivity for how we use our purchasing power and how companies should be more transparent about how and where their goods are manufactured.



Our culture pushes us to mindlessly buy and acquire without considering the impacts this might have on the environment.

## New Research

- Exciting new research is being done at Stanford in the lab of James Gross, who gave us the modal model of emotions. They're using functional MRIs to look at measures of brain activation in different brain areas when an individual is engaged in the process of cognitive reappraisal. They believe that it involves executive functioning, so they're looking in the frontal lobes and specifically the prefrontal cortex, but they're particularly interested in the communication between the frontal lobes and the limbic system.
- Another example of a new study area is the coherence of emotions. Emotions involve multiple response systems, and we have claimed that these responses are organized or coherent. Surprisingly few studies have tested this core hypothesis of the modal model, and those that have done so yielded mixed results.

- In this new project, researchers at Gross's lab are obtaining continuous measures of emotional experience, expression, and physiology and examining the conditions under which response coherence is evident. It has implications for helping us better understand when we're in complex, mixed states.

### Suggested Reading

Affectiva, <http://www.affectiva.com>.

Stanford Psychophysiology Laboratory, <https://spl.stanford.edu/resources>.

Tettegah, *Emotions, Technology, and Social Media*.

### Questions to Consider

1. What's the most disturbing part about machines/robots/computers developing the capacity to read and respond to our emotions? What new problems might emerge?
2. Will the advancing science of emotions detract from the magic and mystery of emotions in the arts? Can we have both?

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